THE SCHOOL JOURNAL

NEW YORK AND CHICAGO

LIBRARY
JUL 11 1896
U.S. BUREAU OF EDUCATION.

VOLUME LIII., No. 2.
$1.50 A YEAR; 10 CENTS A COPY.

JULY 11, 1896.

51 East Ninth St., New York
262 Wabash Ave., Chicago, Ill.

COMMENCING MONDAY, JULY 13,

The New School of Methods in Public School Music will be held at Hingham, near Boston, continuing two weeks. The feature of the school will be the exemplification of the principles of the Natural Course in Music by the authors of the system, Messrs Ripley and Tapper. Arrangements have also been made for special departments in Penmanship, Drawing and Physical Culture. Members of the faculty are:

MUSIC.—Messrs Frederic H. Ripley and Thomas Tapper, Boston; Mr. William L. Tomlins, Chicago; Miss Julia Ettie Crane, Potsdam State Normal School, New York; Mrs. Emma A. Thomas, Detroit, Mich.; and Mr. F. A. Fitzpatrick, Boston, Mass.

PENMANSHIP.—Mr. Hollis E. Dann, Ithaca, New York, and Mr. C. C. Curtis, Minneapolis, Minn.

DRAWING.—Miss Mary W. Gilbert, Supervisor of Drawing, New Bedford, Mass.

PHYSICAL CULTURE.—Mrs. Louise Preece, Minneapolis, Minn.

Every arrangement has been made to insure a profitable and delightful session. Teachers interested in any of the subjects mentioned should not fail to take advantage of this opportunity of studying them under such distinguished instructors. For full particulars address

AMERICAN BOOK COMPANY

Washington Square, - New York City
or 55 Franklin Street, Boston, Mass.

J. B. LIPPINCOTT COMPANY'S

SPECIAL SPRING ANNOUNCEMENT.

A NEW ISSUE OF

Chambers's Encyclopædia

AT A POPULAR PRICE.

A Dictionary of Universal Knowledge, containing upwards of 30,000 articles; illustrated by more than 3,500 engravings; over 11,000,000 words, and 17,560 columns of reading matter.

Rewritten and Enlarged by American and English Editors. International in Character. Based upon the most recent Census Returns, and Corrections and Additions made up to the day of printing.

The New Popular Edition. In 10 Vols. Imperial Octavo.
Cloth binding, $20.00, net. Half leather binding, $25.00, net.

CHAMBERS'S ENCYCLOPÆDIA is in use as a book of reference wherever the English language is known. The first edition of this great work was completed in 1868. From this point for over twenty years a process of correction and revision was continued from year to year, thus bringing the information down to the latest possible date.

But this process of revising and altering could not be carried on indefinitely. Many articles called for an entirely different treatment. New subjects of interest demanded admittance; while some have lost their claim to the prominence given them twenty five years ago. The publishers therefore have set up and electrotyped the work afresh for this new edition in the preparation of which every line of the previous edition has been scrutinized, and the articles rewritten partially or entire, while new articles have been prepared to embrace all new subjects required by the progress of knowledge. This edition is consequently a new Encyclopædia, comprising the latest information in the whole range of human Knowledge, and it is offered to the public at a reduction of ONE-THIRD from the price of any previous editions. Furthermore, we have withdrawn our former trade editions from the market.

Specimen pages sent free on application to the Publishers.

J. B. LIPPINCOTT COMPANY, Philadelphia.

My fires light up the hearts and hearts of men.

LONGFELLOW.

DIXON'S

American Graphite

PENCILS.

A DISTINCTLY AMERICAN INDUSTRY.

American Materials. American Capital. American Brains. American Labor. American Machinery.

If you are not familiar with the Dixon—mention THE SCHOOL JOURNAL and send 16 cents for samples.

JOS. DIXON CRUCIBLE CO.,

Jersey City, N. J.

Teachers Should Specialize

THERE is a growing demand in the High Schools of this country for good commercial teachers—men of broad general culture and education, who are specialists in commercial work. Drexel Institute, Philadelphia, has established a department for the training of such teachers, and the demand this year for its graduates far exceeds the supply. The salaries offered have run all the way from $750 to $1,500. The class of 1896-'97 will be limited to twenty-five. Intending applicants should send at once for catalogues and particulars.

Address: SECRETARY AND REGISTRAR,
Drexel Institute, Philadelphia.

Aids for Teaching Art and History.

The Prang Educational Company are now publishing a series of reproductions of fine photographs of famous buildings and monuments as aids for teaching Art and History.

These reproductions are about 20x28 inches in size, of the same color as the original photographs, and do not fade on exposure to light.

PRICE, ONE DOLLAR EACH.

An illustrated circular showing the subjects thus far published, will be mailed on application to

THE PRANG EDUCATIONAL COMPANY,

646 Washington Street, BOSTON. | 47 East 10th Street, NEW YORK. | 111 Wabash Avenue, CHICAGO.

TRY KELLOGG'S BUREAU.

The **New York Educational Bureau**, established seven years ago, by its present manager has steadily pursued the true Bureau method of recommending teachers. Positions have been filled by this one Bureau manager and his clerks in twenty-nine states, in all grades of schools and school work. During the last five years the brightest and best graduates from various institutions have registered here. A careful study of their abilities together with the extensive facilities possessed by this bureau make it a valuable help to the teacher of worth.

Do you want a better position, or teachers recommended to you for any department?

H. S. KELLOGG, Manager, 61 E. 9th St., New York.

TEACHERS' LIBRARIES.

can now be selected with the certainty of securing valuable books only. Our new catalogue of all the best books and aids for teachers is now ready and will be sent to any address for 6 cent stamps, much less than cost. It is the result of months of patient labor. All important books are accurately described. Special prices to teachers are made on nearly all. It contains 100 closely printed pages and lists nearly 1500 volumes. It is the most valuable guide of the kind ever printed. All the books listed are kept in stock by us, and will be furnished on receipt of price.

E. L. KELLOGG & CO., 61 East Ninth Street, NEW YORK

SILVER, BURDETT & COMPANY, Publishers,

Approved Text-Books Embodying Progressive Educational Methods.

BOSTON	NEW YORK	CHICAGO	PHILADELPHIA
110-112 BOYLSTON ST.	31 E. 17TH ST.	262-264 WABASH AVE.	1028 ARCH ST.

A NEW PAPER.

VERTICAL PRACTICE PAPER. No. 4.

Size, 7x8 1-2.

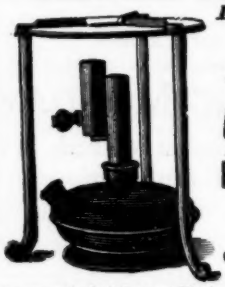
1000 SHEETS TO REAM—AT 60 CENTS, NET. - - - - *Correspondence solicited.*

PECKHAM, LITTLE & CO., General School Supplies, 56 Reade St., N.Y.

CHEMICALS AND APPARATUS

Laboratory Supplies of Every Description

Bullock & Crenshaw,



The new Alcohol Bunsen Blast Lamp.

IMPORTERS —AND— *DEALERS,*

528 Arch St., PHILADELPHIA

Catalogues mailed on receipt of the postage, six cents

ESTABLISHED 1851.

EIMER & AMEND,

205-211 Third Ave., **NEW YORK.**

Everything necessary for the Chemical and Physical Laboratory will be furnished of best quality at reasonable prices.

Glass and metal apparatus, special, made to order, according to drawings.

Glass blowing and engraving done on premises.

Fine Science Apparatus.

ALFRED L. ROBBINS CO.,
(Successors to Science Dept. National Sch'l Furn'g Co.)

Inventors and Manufacturers of Modern School Apparatus of the Highest Efficiency.

Works and Salesroom—149-151 E. Huron St., CHICAGO, ILL.

200-page Catalog just out, Free to School People.

SMITH'S RAPID PRACTICE

Arithmetic Cards.

GREATEST LABOR SAVING DEVICE { For giving any amount of practice in arithmetic } **TESTED FOUR YEARS**

From the lowest grade of primary addition, through fractions, percentage to advance measurements. 32 sets of 16 cards each, every one different. Price, 50 cents net per set, postpaid. Complete sets of 32 in handsome wooden box. Price on application.

E. L. KELLOGG & CO. New York & Chicago.

FLAGS!

For School use as required by State Law. Address:

Successor to G. W. Simmons & Co., OAK HALL CO., Boston, - Mass.

PLAYS

—SPEAKERS— For Home and School. New Catalogues FREE. DE WITT, Rose St., N.Y. —DIALOGUES—

NEW PENS. # ESTERBROOK'S VERTICAL WRITERS

For Vertical Writing.

No. 556 Fine Points.

No. 570 Medium Points.

No. 571 Coarse Points.

You will like them. Order through the dealers or send for samples

Works: Camden, N. J.

THE ESTERBROOK STEEL PEN CO., 26 John St., New York.

TEACHERS' AGENCIES.

TEACHERS CO-OPERATIVE ASSOCIATION

101 THE AUDITORIUM BUILDING. - - CHICAGO.

ESTABLISHED IN 1884. . . . . POSITIONS FILLED, 4,000.

SEEKS Teachers who are ambitious for advancement rather than those without positions . .

SPECIALISTS with good general education wanted for department work in Normal Schools, High Schools, Preparatory Schools and Colleges, in Pennsylvania and other states.

For twelve years we have been aiding teachers (male and female) to desirable positions in every grade of work. Our methods seem to please our patrons, for we retain their good will. More applications for teachers are now coming in from old patrons than ever before. Write for particulars. Address

NATIONAL EDUCATIONAL BUREAU.

R. L. MYERS & CO., 124 Market St., Harrisburg, Pa.

THE FISK TEACHERS' AGENCIES.

EVERETT O. FISK & CO., Prop's. | 100-page Agency Manual sent free to any address.

4 Ashburton Pl., Boston, Mass. 355 Wabash Ave., Chicago, Ill. 107 Keith & Perry B'ld'g, Kansas City, Mo
70 Fifth Ave., New York City, N.Y. 25 King St., West Toronto, Can. 728 Cooper B'ld'g, Denver, Colo.
1242 Twelfth St., Washington, D.C. 420 Century B'ld'g, Minneapolis, Minn. 525 Stimson Blk., Los Angeles, Cal.

83% secured positions last year. Pennsylvania Educational Bureau, ALLENTOWN, PA. L. B. LANDIS, - MANAGER. - Circulars Free. FACILITIES - - - UNSURPASSED. 17th year. Does business in all the states.

ALBANY TEACHERS' AGENCY.

Provides Schools of all Grades with Competent Teachers. Assists Teachers with Good Records in Obtaining Positions.

Correspondence with school officers and teachers is invited.

HARLAN P. FRENCH, Manager, 24 State St., Albany, N. Y.

For Western Positions you should write to the LARGEST WESTERN AGENCY,

viz:—ALBERT & CLARK, Pullman Building, Chicago.

Free Registration. Send for circulars to the NATIONAL TEACHERS' AGENCY.

(Support solely from commissions.) 24 Van Buren Street, Chicago.

THE TEACHERS' CO-OPERATIVE ASSOCIATION OF NEW ENGLAND

has filled 2102 positions.

Register Now. . . . . Manual Free.

F. B. SPAULDING, Manager.

36 Bromfield Street, Boston.

Save Books FROM WEAR AND TEAR

Inside and Out.

SMALL OUTLAY—BIG RETURNS

in extra life and neatness of books.

700 FREE TEXT-BOOK SCHOOL BOARDS

Constantly using

THE HOLDEN SYSTEM FOR PRESERVING BOOKS

Consisting of Holden's Adjustable Book Covers, and Holden's Self-Binders and Transparent Paper.

RECENTLY ADOPTED BY N. Y. CITY FOR SCHOOL LIBRARIES.

Samples and information free. HOLDEN PATENT BOOK COVER CO., Springfield, Mass.

P. O. BOX 643-B4.

KINDERGARTEN AND SCHOOL SUPPLIES. J. W. SCHERMERHORN & CO., 3 EAST 14TH STREET, NEW YORK.

Send for Catalogue.

READERS will confer a favor by mentioning THE JOURNAL when communicating with advertisers.

AMERICAN AND FOREIGN

TEACHERS' AGENCY

Introduces to colleges, schools, and families, superior Professors, Principals, Assistants, Tutors, and Governesses, for every department of instruction, recommends good schools to parents. Call on or address

Mrs. M. J. YOUNG-FULTON,

American and Foreign Teachers' Agency,

23 Union Square, New York.

Schermerhorn's Teachers' Agency

Oldest and best known in U. S.

Established 1855.

3 EAST 14TH STREET, N. Y.

Teachers Wanted Now.

NO ROOM TO GIVE LIST OF PLACES.

If you desire a better position write to the New York Educational Bureau full particulars of yourself at once.

Kellogg's Bureau recommends teachers and has filled good positions in twenty nine states.

H. S. KELLOGG, Manager,

No. 61 East 9th Street, New York.

School of Pedagogy.....

NEW YORK UNIVERSITY.

HENRY M. MacCRACKEN, LL.D., *Chancellor.*

Complete professional preparation for those who intend to become superintendents, principals, professors in normal schools and teachers of higher rank.

Year begins September 30.
Scholarships, yielding $250. a year to holder.
New Residence Hall for Women.

For catalogue address the Dean

....EDWARD R. SHAW....

University Building,

WASHINGTON SQUARE. - - N. Y. CITY.

FRENCH LANGUAGE.

Prof. BERGER, the well-known French Teacher, 853 Broadway, New York, has just published a NEW FRENCH METHOD, highly endorsed, especially by Prof. E. Aubert, of New York Normal College, the author of "French Literature," and by A. Mason, B.A., of Cambridge University (*England*), who writes: "*Prof. F. Berger's New French Method is a masterpiece for the study of French. The system for mastering the verbs is admirable*"

Specimen copy, 38 cents (half regular price.)

Apply PROF. BERGER, 853 BROADWAY, N. Y.

J. M. OLCOTT, HEADQUARTERS FOR

W. & A. K. Johnson's Celebrated Wall Maps
Parker's New Structural Maps,
American Standard Globes,

AND ALL KINDS OF SCHOOL SUPPLIES.

70 Fifth Ave., New York.

IF YOU WANT

FRENCH BOOKS,

or books of any description—School Books, Standard Books, Novels, etc., send to

William R. Jenkins,

Publisher and Importer,

851 and 853 *Sixth Avenue, (48th Street), New York.*

Catalogue on application. Importations promptly made

·Absolutely Pure-Delicious-Nutritious·

The Breakfast Cocoa
MADE BY
WALTER BAKER & Co. LIMITED
DORCHESTER, MASS.
COSTS LESS THAN ONE CENT A CUP.
NO CHEMICALS.
ALWAYS ASK YOUR GROCER FOR WALTER BAKER & Co's. BREAKFAST COCOA MADE AT DORCHESTER, MASS. IT BEARS THEIR TRADE MARK LA BELLE CHOCOLATIÈRE ON EVERY CAN.
·AVOID IMITATIONS·

Delicious Drink

Horsford's Acid Phosphate

with water and sugar only, makes a delicious, healthful and invigorating drink.

Allays the thirst, aids digestion, and relieves the lassitude so common in midsummer.

Dr. M. H. Henry, New York, says: "When completely tired out by prolonged wakefulness and overwork, it is of the greatest value to me. As a beverage it possesses charms beyond anything I know of in the form of medicine."

Descriptive pamphlet free.

Rumford Chemical Works, Providence, R.I.

Beware of Substitutes and Imitations.

For sale by all druggists.

For Vertical Writing.

USE **JOSEPH GILLOTT'S**
VERTICULAR AND VERTIGRAPH
PENS.

These Pens have been especially designed for Vertical Writing, after a formula arrived at by careful study of required conditions.

JOSEPH GILLOTT & SONS, 91 John Street, NEW YORK.

SPECIAL OFFERS.

We must make room for new stock and therefore make to our patrons the following extraordinary offers:

The Professional Teacher.
144 pages, size of TEACHERS' INSTITUTE—equal to 500 pages of an ordinary book—**30** *cents postpaid*—one-half usual price. It contains N. Y. State Graded Examination Questions and Answers on Theory and Practice of Teaching. Many valuable articles on educational subjects.

Educational Foundations. *Bound.*
1892-3.—600 pages. Cloth. Very valuable to every teacher. **60** *cents postpaid.* Regular price $1.25.

Lubbock's Best 100 Books.
10 *cents.* Regular price, 20 cents.

Pooler's N. Y. School Laws.
Every N. Y. teacher should own it. Only **15** *cents.* Regular price, 30 cents.

Browning's Aspects of Education.
A standard treatise on educational history. **13** *cents postpaid.* Regular price, 25 cents.

Gladstone's Object Teaching.
8 *cents.* Regular price, 15 cents.

E. L. KELLOGG & CO., New York.

DO YOU SUBSCRIBE FOR

EducationalFoundations

$1.00 a Year?

This is a monthly text-book for teachers who desire professional advancement.

Our Times

30 cents a Year.

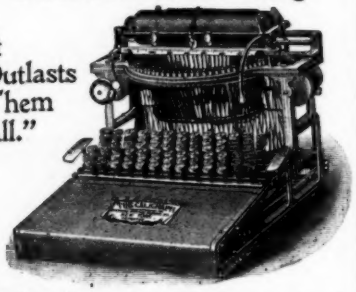
The ideal paper of current events carefully edited for the schoolroom. Clubs of two or more 25c each.

Its circulation has doubled during the last year.

E. L. KELLOGG & CO., New York & Chicago

The Caligraph Typewriter
IS WORTH 100% MORE
than any other, because it will wear twice as long.

"It Outlasts Them All."



The finest Typewriter Catalogue ever issued, and interesting Pamphlets, will be sent on application to the.....
American Writing Machine Company
237 Broadway, New York, U.S.A.

The Massachusetts Mutual Life Insurance Co.,
1851— SPRINGFIELD, MASS. —1896.
JOHN A. HALL, President. H. M. PHILLIPS, Secretary.
JANUARY 1, 1896.

Assets $17,005,291.55. Liabilities, $15,735,123.48. Surplus, $1,270,168.07

If you will write your name, date of birth, and address, in the blank form below, and send it to the above address, we will take pleasure in showing you not an "ESTIMATE" but a "STATEMENT" showing the exact values in cash and paid up insurance which would appear in a Policy issued at your age.

I was born on the.....day of.....In the year.....
My Name is.....
Address is.....

READERS will confer a favor by mentioning THE JOURNAL when communicating with advertisers.

THE SCHOOL JOURNAL

A Weekly Journal of Education.

Vol. LIII. For the Week Ending July 11. No. 2

Copyright 1896, by E. L. Kellogg & Co.

The business department of THE JOURNAL is on another page.

All letters relating to contributions should be addressed plainly "Editors of SCHOOL JOURNAL." All letters about subscriptions should be addressed to E. L. KELLOGG & Co. Do not put editorial and business items on the same sheet.

Religious Instruction.

While the morning exercises consist only of reading a short selection in the Bible, and the reciting of the Lord's Prayer, an infidel parent objects to this at the primary school in Eleventh street. The teacher merely asked the boy to bow his head, but this the parent objected to. THE JOURNAL has often proposed, for the sake of harmony, that all religious exercises should be omitted if parents objected. But it has been urged that at certain times, say from three to four o'clock at the school-house, daily, or less often, the children be instructed in religion by such persons as the parents may choose. The time has not arrived as yet when the Protestants care enough about the matter to provide for such instruction if such a plan was adopted ; the Catholic priest would probably attend.

There is a lack of interest felt in giving religious instruction in schools ; of this every one is aware. There are various causes for this. Protestants have very largely lost faith in the usefulness of religious exercises in school and college. Once the colleges forced the students "to attend chapel," but in many colleges this is no longer compulsory. And the reason offered has been that such is the advice of graduates, given after years of absence from their alma mater had passed. Upon reflection the graduate believed the exercises did not make him religious.

It is a matter of much importance who the person is that undertakes to give religious instruction ; in all studies this is the prime question ; in religion it is the all in all question. A man who could instruct well in geography and grammar might prove a complete failure in religion. Religion is largely a matter of feeling ; the one who can reach our feelings may justly undertake to aid us religiously. There are of course foundation truths that form a matter for the understanding ; for there is philosophy in religion as well as in science. But there must be interest to prompt the learning of these.

The question then is, shall we go backward or forward? Shall the state recognize religion to the extent of affording at the school-house an opportunity for religious instruction, after the usual studies are completed? To this we would answer emphatically in the affirmative. The schools would have religion for an ally and they need it. Every teacher would welcome the impression left by the religious teacher ; the pupils would be more obedient and more industrious.

But this will not be undertaken for many years, on account mainly of a want of enough religious interest. Say what we will, the various sects do not want to undertake any more than the two sessions on Sunday at the church edifice. It may be they will be forced to do more elsewhere by the bicycle, which takes away a vast number of young people from the churches on Sunday. We urge the teaching of religion as has been outlined, because teachers need the aid of religion to help them in forming the character, confessedly the great end of education.

It is significant that the teaching of temperance has found a place by law in the school program ; it would seem to be but the next step to provide for religion. And it is predicted that it will be felt as necessary, in less than a quarter of a century, to teach religion as it now seems to be to teach temperance. "Temperance, righteousness, and a judgment to come" were the themes of Paul before the Roman governor. We have conceded the first two a place in the schools ; as time progresses the absolute need of instruction concerning the demands of the Creator will also be conceded.

Pictures.

There are two main uses for pictures in schools ; one to exercise and develop the æsthetic sentiment, or the feeling for beauty—with which object the walls of the class-rooms, halls, and corridors should be hung with pictures ; the other to convey information to the mind, to fix it there, and to exercise the faculty of constructive imagination. With regard to the latter use it may be pointed out that it has long been accepted as an axiom that the best explanation of a thing is the sight and study of the thing itself ; and the next best is a photograph or exact unembellished picture of the thing. This mode of explaining and conveying information has been largely used from quite early times, but is still capable of considerably greater development—especially in the departments of geography and history. But besides conveying information, pictures may be used, and indeed are almost indispensable, for the cultivation of one of the most valuable of the intellectual faculties —the constructive imagination ; both when the mental images constructed are exact or nearly exact copies of some original which exists or has existed (as in geography and history), and when the constructions are new combinations of material already acquired (as in science and in art, both literary and pictorial) ; in which latter case—when the combinations are new—pictures serve the purpose of suggestive models. The use of pictures as aids to the memory is too widely recognized to need more than mention. There is one *misuse* of them, however, which cannot be too often protested against ; and that is in lessons of *observation*. In such cases pictures can never be properly used except when pictures themselves are the things to be observed. To study a picture instead of the thing itself differs hardly at all from studying a written account of the thing.

From Sense Perception to Philosophic Knowing:

How the Will Combines with the Intellect in the Higher Orders of Learning.

[Abstract of Paper by W. T. Harris for Round Table Discussion, National Council of Education, Buffalo, July 4, 1896.]

The most important portion of psychology for the teacher is that part which relates to the different orders of knowing. There seems to be a scale of powers of thought. Some would call these faculties. The weakest stage of development is connected with mere sense-perception; the highest stage of thinking is that which deals with the necessary conditions of all being. Education in the course of its progress should broaden and deepen the intellect; it should make possible the thinking of greater and greater combinations. Hence, the teacher should be familiar with the scale of thought and know how to recognize a higher order from a lower order. Moreover, he should know how the higher order develops from the lower. In psychology these stages are commonly named sense-perception, understanding, and reason, technical terms derived from Coleridge or from Kant. Older psychology named them, from Aristotle, sense-perception, discursive reflection (*dianoia*), and theoretic knowing, or the knowing of the divine (*theorein*). In more recent psychology we may find the three steps described as (1) sense-perception, (2) a knowledge of the relativity of things or the correlation of forces, and (3) a knowledge of the absolute—which, however, is described as a knowledge not possible for men.

Supt. Newton C. Dougherty, Peoria, Ill.
President N. E. A.

In the following paper I have described six stages of knowing. First, simple passive reception of impressions without the action of the will; second, the first direction of the intellect by the will, producing attention; third, the second action of the will, using attention repeatedly and guiding its successive acts—analysis; fourth, the third intention of the will, which, through analysis, discovers relations to other objects or beings, and thus discovers relativity or the relation of dependence upon other things. This last is called synthesis. The general name, reflection, is given for the union of synthesis and analysis, and this is our fifth step. Up to this point we have traced the orders of knowing from the simplest sense-perception up to the highest scientific knowing. There is a sixth order of knowing which considers the action of independent beings or wholes and formulates the necessary truths concerning the totality of relative beings which belong within it.

I shall omit all reference to the activity of the soul known as feeling, considering only the other two activities, namely, will and intellect, except in so far as to say here that feeling may be considered as the embryonic form of both will and intellect. On the side of desire feeling moves towards the will. On the side of sensuous impressions feeling relates itself to intellect. It is evident that feeling cannot be educated directly in itself, but only mediately through the intellect and the will. The will is trained by forming habits; the intellect is trained by developing higher orders of knowing. When a habit is formed and a theoretical view is reached by the intellect which corresponds to that habit, it will happen soon that feeling will come to contain the contents of the willing and knowing in the form of immediate impulse or unconscious tendency. Therefore the feeling can be cultivated, and is cultivated in fact, with the growth and development of the intellect and will.

The Six Orders of Knowing.

1. It is usually taken for granted that the mind is at its lowest stage of self-activity in sense-perception; that is to say, when it is simply receptive of the impressions of the senses. The moment it attempts to guide these impressions, or to reflect on them, the mind ascends to higher forms of activity, and limits the scope of its passivity.

When at this lowest point of activity, the infinite manifold of objects before the senses engrosses the entire attention. One object succeeds another in controlling the focus of attention. This condition of mind is very nearly that of the idiot, who is successively attracted by one object after another, and never reflects or connects these objects by the thought of casuality, or attempts to guide his perceptions and make them a consistent whole. The contents of his mind are, therefore, a mass of sense-perceptions, without connection between them.

2. Intellectual culture begins when the will first commences to act on the senses. Its first action produces what is called attention. Attention selects one object out of the manifold and collects the various impressions made upon its senses, while it wilfully neglects the multitude of other objects that are in its presence—it inhibits the consideration of these others. Attention, then, may be regarded as the name of the first union of the will with the intellect. It turns the chaos of sense impressions into a system by connecting them about a focus arbitrarily chosen.

3. Attention gathers, one after the other, the sense impressions that proceed from the particular object, and it discriminates these. And by this discrimination it separates and defines the object from other objects. Hence, the first product of attention is analysis, and we may therefore call analysis the second product of the union of the will and the intellect. By analysis the sense impressions are properly grouped and carefully discriminated, and through them the object is defined.

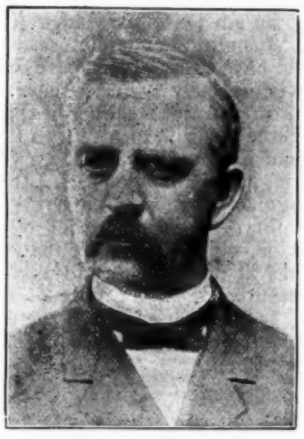
4. Continued analysis discerns in the isolated object the influence of other objects. To recapitulate. The object is isolated by attention; analysis discriminates and defines its properties and qualities. Analysis is composed of repeated acts of attention. The will isolates the object and excludes others from it; then again it selects a portion of this object for its minuter attention, excluding the rest of the object; again and again narrowing its attention down to more and more limited fields of observation, it approaches the simplest elements. This is analysis. But in taking account of the simplest elements of the object, it discovers its (object's) complication with other objects. It notes the reaction of other objects upon the object it has chosen for its attention; it notes evidences within the object of reaction upon other objects. This result of repeated analysis is synthesis. Thus we have analysis as the result of repeated acts of attention, and we have synthesis as the result of repeated acts of analysis.

5. Synthesis, then, is the discovery of connections, of reciprocal actions, of the action of the object upon other objects, and of the reaction in turn of these objects upon it. Synthesis, then, results in the discovery of relativity—a system of relations in which the object stands to other objects. The continuation of this process is called reflection. Reflection consists of analysis

and synthesis—the descent to the elements and the ascent to the complex interrelations which form the constitution of the object. Here I use analysis and synthesis as applied to objects of experience. This activity of reflection and of its separate elements of analysis and synthesis is called the understanding by some schools of thought.

Again, naming these in a different way, we can say that these are the potencies of the mind, the first potence being attention simple ; the second potence being analysis ; the third potence synthesis ; the fourth potence reflection.

Still further, if we regard the essential personality as will power, we can describe the various stages of growth thus far considered as the directing of the will or personality upon its intellect, overcoming its passivity, and directing it actively towards the mastery of the world.



IRWIN SHEPARD, Winona, Minn.
Secretary N. E. A.

6. There is another step of the intellect above that of reflection just described. We may call it insight, or philosophic knowing. Just as each of the other stages of knowing arises from the persistent and systematic use of the lower orders of knowing by the will, so the highest, or insight, arises from the systematic use of reflection through the will. Reflection follows out relations of dependence, and acknowledges relativity as its highest category. Its doctrine is that each thing depends on everything else. It holds that all knowledge is relative because all things are relative, existing in a system of mutual dependence. The final result of this process of reflection is to reach a whole of mutually dependent beings. This is evident when one considers, that, when reflection arrives at the conclusion that dependence is everywhere present among things, it is able to state its principle in a universal form ; and hence it now has before it a whole—to it there is one system of interdependent things in time and space. This is the summit of the understanding.

But now it becomes possible to discern some facts regarding the whole as a whole. This order of knowing is called reason by some psychologists. For illustration of the character of its knowledge, take as an instance, first, the insight that the whole cannot be dependent on another whole. The whole must be independent. Second, it follows that the whole must be self-active, because it cannot by any possibility receive its casual influence from another ; and on the other hand it must originate activity within itself because there is within it a constant process of dependence and inter-relation, causing changes or metamorphoses of integration and disintegration.

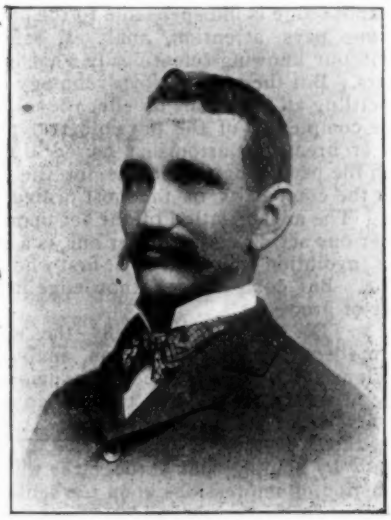
This predicate of self-activity, applied to the whole, is the most important conclusion reached in this higher kind of knowing. It is very important to get this clear. And yet it must be noted as a fact that the scientific stage of mind, which may be called the analytic and synthetic or reflective stage, holds itself back determinedly from thinking the totality. It inhibits that thought. Those, on the other hand, who take up this stage of thinking have definitively adopted the method of philosophical thinking.

The following review of the points named will assist in making clear the necessity of this insight into self-activity. Interrelation or dependence among all objects in time and space necessarily implies the unity of the whole. The whole is one being. Destroy any portion of it and you change all of the constituent parts by shutting out a portion of influence that exercised an effect upon these. Secondly, bearing in mind that the whole is not dependent upon anything else, one may see that it is essentially the originator of the movement of action and interaction going on between the beings which compose this whole.

If one should attempt to avoid this by supposing that simple mechanical interaction, a sort of persistent motion or persistent force, is constant and eternally active within the whole, then consideration must be invited to the character of this kind of pepetual motion. Any force, as we know it, is a running down of some tension that has been wound up. Any force is therefore essentially dependent upon an opposite force. The correlation of forces therefore as a whole has the form of a series in which the running down of the first force (the same being transmitted to each successive member of the series) finally winds up the last force into action, and that one winds up the first. It is a contrivance of such a kind that the running down of a force affects its own winding up, although through a long series of other forces. Now such a thought as this is absurd from the standpoint of mere relativity, but it is an admission on the other hand, of self-activity as the principle of the whole. Self-activity can always reproduce a new tension of force ; that is to say, it can forever wind up its tension when collapsed. The doctrine of correlation of forces therefore has (coiled up in it as an implication) the idea of self-activity to make it possible. Hence, the stage of knowing which deals with the nature of a whole regards self-activity as the principle of explanation, if it is logically consistent.

REMARKS.

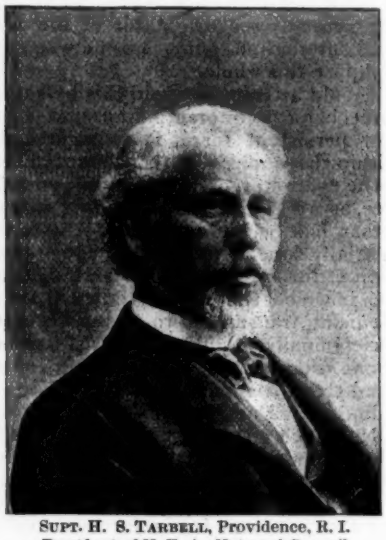
Remark 1. It is to be admitted that this progressive series of stages of knowing, arising from the action of the will upon the intellect, would at first be supposed



ASSIST. SUPT. I. C. MCNEILL, Kansas City, Mo.
Treasurer N. E. A.

to lead away from reality towards abstraction ; or, in other words, from the concrete to the abstract. But, in fact, it is otherwise. The higher members of the series of knowing are more adequate, and reach the concrete truth, while that kind of knowing which merely knows impressions without taking cognizance of relations is an abstract knowing, because it deals with mere dependent things, properties, and qualities, with-

out seizing them in their true relations, whereas the reflective knowing seizes things in their casual relations, which make them possible and sustain them in being. It is a more concrete kind of knowing, therefore. But the kind of knowing which I call insight—which explains the dependent things by the independent whole—is philosophic or theologic knowing. Its aim when realized enables one to see each thing in God's final purpose in the universe. Hence what we call insight deals with moral purposes.



SUPT. H. S. TARBELL, Providence, R. I.
President of N. E. A., National Council.

Remark 2. It is true that the psychological theory of these kinds of knowing is apart from and unnecessary to the realization of the kinds of knowing themselves. That is to say, a person may be engaged in analysis without knowing that it is analysis, and without any special information regarding the nature of analysis. Physiology and hygiene give one an insight into the processes of digestion and respiration, but are not necessary for the performance of those functions. One breathes and digests quite as well without a scientific knowledge of the nature of the process. But such scientific knowledge is indispensable to the pathologist. So, too, one pays attention, analyzes, reflects, and reasons without knowing scientifically what is involved in such acts. But the science of psychology is necessary for settling all questions of educational criticism. To see the complexity of the physiological process of digestion or breathing astonishes us. Still more does it astonish the psychologist when he for the first time traces out the complexity of the most ordinary mental processes. The accumulation of one act upon another, each higher one acting upon a lower one, is a continued process of involution which seems at first wholly incomprehensible. But complete self-knowledge implies this knowledge of processes.

Remark 3. To recapitulate briefly, the will unites with the intellect to produce attention, analysis, sythesis, reflection, and insight. We have sufficiently discussed the necessity of the will in order to make possible the first three of these activities. It is obvious enough without further discussion that reflection is possible only by holding back through the will the mind from the action of impressions upon the senses. It inhibits direct sense-perception, and confines itself to the analyzing and combining past sense perceptions recalled by the memory.

But the action of the will upon the intellect is most manifest in the fourth order of knowing, to which we have given the name insight. For the inhibition of the will is here most complete and thoroughgoing, for the will drops the entire field of experience, together with its data of sense-perceptions, and commences from the other extreme of the orders of being. It inquires what must be the nature of a whole or total, and finds these categories of independence and self-activity. It uses these, and applies them to the contents of experience as ultimate explanations.

Remark 4. Science may ascertain that a thing is, and expound its interrelations with other beings, but philosophy and theology have not explained an object until they have shown its place in the purposing will of the Absolute First Principle or God. That is to say, philosophic knowing begins with the highest presupposition of a being, and not with its immediate presentation to the senses. Science thus proceeds from the incomplete to the more complete and towards the absolute, while philosophy and theology proceed from the complete towards the incomplete, following the creative purpose.

Remark 5.—The most important thing to be noticed in the theory here presented is, that the will as a self-determining power, uniting itself with the intellect in the ascending series of attention, analysis, synthesis, reflection, and insight, approaches at each step nearer and nearer to an adequate knowledge of itself.

Remark 6. Insight, the completest order of knowing, may be said to have as its object pure will; for a self-active whole is precisely a will. Hence, insight is self-consciousness in the full meaning of that term, for the self as will perceives will, or a self, as the fundamental being and final explanation of things. It is only this kind of knowing (which may be called theistic knowing) that can recognize truly what is involved in freedom and responsibility. The lower order of knowing, here named reflection, which deals with analysis and synthesis, and arrives at nothing beyond universal relativity, cannot consistently admit the idea of freedom or responsibility. It does not entertain the idea of a whole or a self-active being, and hence cannot conceive of will as a form of being.

Ethical Value of History

In Elementary Schools.

By J. F. MILLSPAUGH.

(Extracts from a paper presented to the National Council of Education, Buffalo, July 3, 1896.)

The child learns what things are right and what things are wrong in his own home. That, for the time, is his little world, in which he experiences the rewards of good conduct and the pains of evil doing. Almost his only troubles, and his joys, as well, are those which grow out of his association with his brothers and sisters; and as he becomes older the circle of contact is merely widened to include his playmates of the neighborhood. Thus life to the little child is simply a round of association and contact with persons, and apart from them his interests are few and trivial. Dolls and pets are christened with the names of persons, and made to repeat all the moral experiences, enjoy all the commendation, and suffer all the disapprobation which have fallen to the lot of the little master or mistress. He is fond of stories, both of truth and fiction; but the stories must always be about people. For him stories of nature even possess little charm, unless he thinks of the inanimate objects described as clothed with the attributes of personality. The great story tellers of childhood, like Andersen and the brothers Grimm, have always well understood this, and all their bears and lions, their eagles and swans, their pine trees and daisies, use the thoughts and the language of children.

From these considerations I believe it will appear that history has value for children in proportion only as it falls within the circle of their interests and corresponds with their experiences.

We are, then, interested to inquire concerning the range of historical subjects that are capable of thus awakening the interest of the child, and hence of arousing his moral judgment. It is hardly necessary to remark that this range is a very limited one. Motives which determine the acts of nations differ in many respects from those which govern individuals. The relations existing between man and man require no such

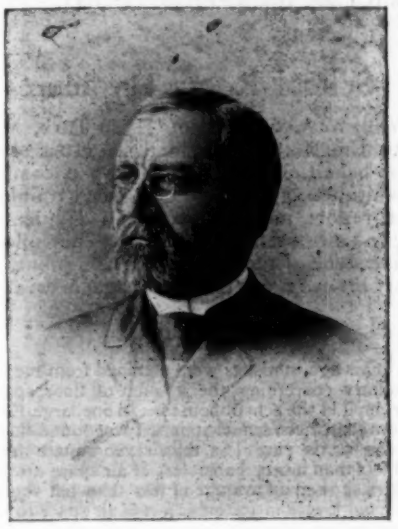
nicety of adjustment and their maintenance is endangered by no such merely technical considerations as those which determine the peace of nations. Reasons which, from the point of view of government, may, in time of war, justify the detention, imprisonment, or execution of persons of irreproachable private character may, at the same time, be utterly indefensible from the standpoint of individuals. In like manner the property of a hostile nation may be seized or destroyed, territory may be invaded, and cities may be bombarded regardless of the fate of the people residing in them. The rightness or wrongness of such acts can only be determined by appeals to the moral code of nations. But of this children can have no knowledge. Their experiences have been with individuals only, and the opportunities for consideration of motives which affect masses of people have been few. From the main events of history, then, those in which considerations affecting large aggregates of people or states predominate, the child can extract but few ideas capable of serving him for moral guidance.

The same reasoning which leads us to believe that the impersonal events of history are of little ethical value would also make it probable that this study, in proportion as the individual, personal element predominates, is capable of exerting over children a strong moral influence. In the stories and myths of the nursery the child finds illustration of his own experiences, and every such illustration connects with it inseparably a demand for moral approval or disapproval. As the range of contact and association with his fellows enlarges he gathers from the stories of national heroes more perfect examples of the operation of motives similar to those which he himself has experienced. Not only does he find in such stories the exemplification of his own observations and experiences, but in the historic perspective produced by the remoteness of time and place there is less confusion of circumstances, emotion is tempered, motives are better defined, and hence ethical judgments are more easily formed and more reliable. Through the examples brought before the child the strength of volition is also increased. What he hears or reads of the desires, the temptations, the resolves, the struggles, the sacrifices, and the moral victories and defeats of the men and women, and especially of the youth, of history tends strongly to fortify him against vain allurement and to reinforce his own resolution. Thus his own experiences of every day, which of themselves might serve

SUPT. E. E. WHITE, Columbus, Ohio,
Chairman Committee on Moral Education, Council, N. E. A.

to impress no valuable lesson, are emphasized by their larger application in the careers of those whose acts have made them immortal. It is not so much history, then,—with its relations of time and place and circumstance, its search for ultimate causes and remote effects,—as biography that is capable of calling forth the moral judgment of children and stimulating resolution. True as it is of all of us, it is especially true of children, that abstract principles of conduct do not strongly affect the will; but the story of what others have done enforces comparisons with self and arouses to imitation and emulation.

I do not need to say that between children of the primary and those of the grammar school there is no sharp line of demarcation. Progressively dependence upon the concrete diminishes and ability to deal with abstract and general ideas increases from infancy to maturity. If in early primary grades the child's attention cannot be attracted by the recital of events entirely



JOHN E. BRADLEY, Jacksonville, Ill.,
Chairman Committee on Higher Education, Council, N. E. A.

disconnected with his own experiences, in grammar grades the condition is not essentially different; but in the latter the range of experiences has been so enlarged and the ability to analyze and combine facts so increased as to render the larger facts and generalizations of history more intelligible. Similarly if in his first years of school life the pupil is mainly attracted by accounts of the adventures and fortunes of individuals, in the higher grades of the elementary school the personal element has lost none of its charms for him; but his own enlarged perception and insight enable him to discover the hand of man where before it was not visible, and to trace human agency in results which before he had regarded as the product of chance. Where before the child could see himself pictured in the individual only, could trace correspondences between his own motives, resolutions, and acts and those of some other distinct personality, now in some degree he is able to see himself in the race of men and to measure his own powers and limitations by the acts of nations.

In grammar grades, therefore, while the function of biography in moral instruction is by no means diminished, the ability of pupils to read the ethical lessons of history in its larger sense is increased.

The extent to which the pupil's instruction in history will quicken moral perception and strengthen moral judgment will depend very largely upon the development of these qualities in the teacher. Under thoughtless, impulsive, and therefore vicious, teaching the study has the same capacity for harm as under right instruction it has for good. The habit of discussing the moral issues of events flippantly; of reaching conclusions hastily and carelessly; and worse than all, of searching for historic examples of evil and evil deeds to beget a misanthropic and nihilistic spirit in the pupil—this habit, by no means uncommon, results in a most dangerous perversion of the power of history. On the other hand, when pupils are taught to suspend judgment until by careful, conscientious study the circumstances surrounding the facts of history have been examined, when events and conditions are studied in comparison or contrast with cases of recent occurrence; when example and incident, the rewards of virtue and the penalties of evil doing, are all employed to stimulate a sense of right

and duty and love of country and humanity—then the instruction becomes a most efficient means of developing moral judgment, of furnishing guidance for conduct, and of begetting healthful emotion, which is the right soil for healthful volition.

The motive power of history has its source in example. In case of the young, especially, this operates as a forceful constraint. In historical biography, then, rather than in the story of impersonal events, we are to seek for the most potent influences tending to stimulate children and youth to right conduct.

School-Room Hygiene.

Dr. William A. Mowry, of Hyde Park, Mass., presented to the National Council on Monday morning, July 6, on behalf of himself and of the committee on school sanitation, hygiene, and physical training a very excellent report on "School-Room Hygiene." It is too long to be printed here in full. The following extracts give some of the most important points to which the report invites the attention of teachers and school officers:

FLOOR SPACE AND AIR SPACE.

"Some years ago, statistics were obtained from the large cities of the country concerning the amount of floor space and air space, per pupil in the school-houses. In one large Eastern city, having more than 1,200 school-rooms, it was found that the average of all the rooms gave less than seven square feet of floor space and less than ninety cubic feet of air space to each pupil. Several cities showed an average of less than ten square feet of floor space and less than 100 cubic feet of air space to each pupil, and only one or two cities at that time, in the whole country, gave, on an average, sufficient floor space or air space. Those who have inquired into the existing conditions in these respects know full well what a crying evil this is. Little children huddled together six hours a day in school-rooms with only five, six, seven, and eight square feet of floor space to each one, breathing the air from fifty to one hundred cubic feet of air space allowed to each one, with a totally inadequate supply of fresh air from all sources, is a crime against nature, and the conditions are aggravated by compulsory laws in many states obliging the children to attend the schools.

"The authorities in Paris twenty years ago claimed that each pupil should have from 250 to 280 cubic feet of air space, with a change of from 400 to 500 cubic feet per hour. This estimate is far too small. They also stated that 'any heating apparatus that does not provide for regular change of air in some form is injurious to health.' Dr. Buck, of New York, asserts that 'we expire from fourteen to twen y cubic feet of air per hour, requiring 200 times that amount of fresh air to dilute it to a health basis, or 3,500 cubic feet per hour.' The leading modern writers vary in their estimate of the amount of the fresh air supply needed, their figures ranging from 2,000 to 3,500 cubic feet per hour for each person. It is now generally agreed that the necessary floor space for each pupil in a school-room should not be less than twenty-five square feet, and with the best ventilating appliances every school-room should furnish 300 cubic feet of air space per pupil.

"The overcrowding of children into small school-rooms with altogether insufficient ventilation is a crying evil which has been often mentioned and frequently discussed, yet very little relatively has been done to correct it."

QUANTITY OF LIGHT.

It goes without saying that every school-room should be well lighted, yet everybody knows that not all school-rooms are well lighted. Even at this late day we are not all agreed as to what constitutes the best lighting for the school-room.

1. We shall all doubtless agree that there should be no windows in front of the pupils when studying at their desks.

2. Many believe that there should be no windows behind the pupils, which would thus face the teacher's desk. Those who would allow such windows generally limit the light entering from the rear to one-third of that entering from the side.

3. Some experts insist that the best lighting requires windows at the pupils' left side, and only on one side of the school-room.

Then as to the quantity of glass. Very few school-houses have too much light. It is generally conceded that the surface of the window glass should be equivalent to ten per cent. of the surface of the floor, and that no pupil should sit more than thirty feet from the windows. The location of the windows is also a matter of importance. No school-room should be less than thirteen feet in height, and the top of the windows should be within one foot of the top of the room. The windows should then be from eight to nine feet in height.

A serious evil frequently found is the custom of using Venetian shades, or blinds with swivel slats. Nothing can be worse for the eyes than partially cutting off the light while allowing narrow beams of it to stream in through the slats. The best method of shutting out the sunlight is by semi-opaque curtains and blinds with fixed slats.

Severe charges are frequently made by oculists against the schools. They assert that studying injures the eyes and that the school-room is responsible for numerous cases of defective eyesight. Doubtless in many instances these charges are true. Hence it has come to be quite generally admitted that the work of the school-room is necessarily antagonistic to good eyesight. It is believed, however, that under proper conditions the reverse is true. The evils complained of are chiefly the result of wrongly constructed school-houses and bad seating.

It is highly desirable that examinations of the condition of pupils' eyes should be made from time to time in the various cities of our country.

HEATING AND VENTILATION.

Much attention has been given of late years to the methods of heating and ventilating school-houses. As to the matter of ventilation, while a few principles have been established yet, in the main, we are all afloat and out on an open sea. Nobody yet understands ventilation, and that is one of the arts to be developed

DR. WM. A. MOWRY, Hyde Park, Mass.,
Chairman of Committee on School Sanitation, National Council, N. E. A.

and carried to perfection by those who are to come after us. It is now generally agreed that some permanent and constant power is essential to the successful ventilation of buildings. No system should be employed which does not furnish a proper supply of fresh air to each room. What the proper supply should be has already been indicated under the head of "Floor Space and Air Space."

In regard to the heating of school-houses it ought to be laid down as a principle and agreed to by every educator, that no system should be employed which does not furnish the heat by indirect radiation. Whether from furnaces, steam pipes, or hot water pipes, fresh air should be heated and sent into the school-room in sufficient quantities to answer the demands both of heating and ventilation. It must, of course, be borne in mind that if fresh air is introduced into the school-room, there must be ventiducts sufficiently large to carry off the vitiated air. Mr. Ross Turner says: "As a rule I have found school-houses *unclean* and *overheated*." The overheating of school-rooms is altogether too common, and frequently is the fault of the teacher. Ordinarily the temperature of the school-room should be kept not over sixty-eight degrees.

CLEANLINESS.

Indeed, if cleanliness is next to godliness it is to be feared that God has been banished from many school-rooms. This uncleanliness is proverbial, yet we go right along keeping the schools year in and year out in these same unclean houses. Can any question be more important than this: "How to make our public schools cleaner and more wholesome, and our school children happier and better mannered?"

A committee of the society of collegiate alumnæ has recently made a report upon this subject in which they say:

"Eighty per cent. of the methods of ventilation are reported as not working well. . . . In a few cases the shafts from sanitaries and class-rooms have their outlets at the same point, with

the consequent result that back drafts bring the doubly vitiated air back to class-rooms. . . . Fifty-nine school-rooms had never been washed since built, in a period of years ranging from fifty down to five. . . . Skirts and underclothes are filthy at the end of one day."

SCHOOL DESKS AND SEATS.

The proper seating of the school-room is to-day certainly a matter of great importance. Perhaps it should not be regarded as of greater consequence than lighting, heating, and ventilation; but possibly just here the educators of America and the people at large are more backward and less successful in the discharge of the duty they owe to the rising generation than in all other matters relating to school hygiene. Very much of the school seating now employed in the United States may truthfully be characterized as execrable. We have doubtless begun to improve; indeed, the beginning was a long time ago; but to-day we have only made the beginning. The people would appear to be in entire ignorance upon the question, and experts in education are sometimes but little in advance of the people. The difficulties in the way of any rapid improvement in this direction are various. The greatest sin is the sin of ignorance, of which all are guilty. Teachers and superintendents may know far more concerning these matters than the people but their knowledge is nugatory because it is discredited. It is seldom that they are allowed to say how a school-house shall be built or how a room shall be seated. Dr. Charles L. Scudder, in a pamphlet upon the "Seating of Pupils in the Public Schools," published four years ago, described the method ordinarily pursued, at the present day, of providing seats and desks for new school-houses. This is what he says:

"A school-house is built and ready for seats. The commissioner of public buildings or his assistant having ascertained the grade of a school and the number of pupils to be accommodated in each room, sends an order to the manufacturer of school furniture who is fortunate enough to hold the contract for the current year to seat and desk the building. The manufacturer, knowing approximately the ages of the children who will attend a school of the given grade, provides desks and seats as he sees fit, furnishing one, two, or three sizes to a single room, as he is inclined, or as may have been suggested by the head master of the school.

"How does the manufacturer determine the sizes that shall be sent to meet the requirements of certain ages? After corresponding and talking with those who have supplied for many years large cities and Boston with school furniture, I find it impossible to learn how the standard of the height of desk and chair has been determined. Some of the recent manufacturers have a scale of desks which is arbitrary, and based on no accurate data whatever. The scale is arranged with convenient differences in size, and assigned to different ages irrespective of height and growth."

We have discarded the long desks and long plank seats behind them, and have adopted the single desk and single seat system. We shall never discard the single desk and seat. Within a few years attention has been turned, both in America and Europe, to the production of adjustable desks and seats. This is a great gain. The adjustability, however, as yet has proceeded only so far as the height of the seat and the height of the desks are concerned. Adjustable desks and seats ought to be provided everywhere. It may not be economy to displace all existing desks and seats and replace them with those which are adjustable, but at least a few of them might forthwith be placed in every school-room. The adjustable seat and desk is an important invention, and the manufacturers are entitled to great credit for producing them and urging upon the community their adoption.

Go into almost any school-room in the land, and you will find children sitting upon seats entirely unsuitable. Some are too low, so that they cannot sit with comfort. Often the seat is too high and the little children's feet are dangling in the air. Still further, if the seat should happen to be adapted to the pupil the desk may not be. The height of the seat should be governed by the distance been the floor .and the knee, and the height of the desk above the seat by the length of the body, or rather by the position of the elbows when the forearm is placed upon the desk. Children with long lower limbs will require higher seats, but only those with long bodies will need higher desks than others. The adjustability of desks and seats has as yet been attempted only in one direction—simply the height. It leaves entirely out of consideration all the other questions pertaining to school seating. Dr. Scudder, in his report already referred to, after careful consideration of the subject, comes to the following conclusions:

1. That the present method of seating is at fault, in that children are compelled to sit in desks unsuited to them.
2. That this method of seating tends to the production of permanent deformity of the spine.
3. That the poor seating in our schools has not been hitherto sufficiently emphasized by orthopedic surgeons as a cause of spinal deformities.
4. That a larger number of different sized desks and seats, or adjustable desks and seats, should be provided for each school-room.
5. That the teachers of the public schools should be impressed with the fact of the importance of maintaining erect positions, both in sitting and standing.
6. That having greater variety in sizes of seats and desks, and recognizing the danger of malpositions in sitting, great care should be used to seat each child before a desk and in a chair as nearly as possible the proper size.
7. That the desk should be low enough to just allow the bent elbow to touch it when the hand is raised to write, without raising the shoulder or tilting the trunk.
8. That the chair should permit easy contact of the whole sole of the shoe with the floor when the child sits well back in the seat.
9. That foot-rests should be used more than at present, not only to support the foot and leg, but to give a feeling of support to the whole trunk, and to prevent the slipping forward of the buttocks upon the chair, causing one of the commonest of bad postures.
10. That the present system of gymnastics in use in the public schools will help to overcome slight tendencies to deformity which might go unchecked and lead to disastrous results.

SUPT. AARON GOVE, Denver, Col.,
Chairman Committee on City School Systems, Council, N. E. A.

These results do not all flow from the simple matter of height of desk and chair. A very important point is the distance between the back of the chair and the edge of the desk. Throughout the whole country, with but few exceptions, this distance is too great. The average child of five or six years requires a space between the back of the chair and the desk of seven to eight inches. In order to have freedom of movement, this space, for the youngest children in school, should be nine inches. Many a primary school room in various parts of the country will show this distance to be twelve inches and over, and in not a few instances even as great as sixteen inches. In academies and high schools the largest distance ordinarily required between the back of the chair and the edge of the desk should not exceed thirteen inches. The true scale, therefore, from the primary school to the high school, would range only from nine to thirteen inches. Think of a little child, whose body from front to back measures but eight inches, sitting upon a seat with twelve or fourteen or sixteen inches' space between the desk and the chair back! How shall the child sit? If he is to sit back in the chair, as he ought to sit, he will be too far away from the desk for study or writing. If he brings his body into a proper position for using the desk, either in writing or as a rest for his book, he must sit upon the mere front edge of his seat. Moreover, what temptations this condition of things offers for sliding the body downwards under the desk, and sitting with his shoulders only against the chair back!

The attention of the members of this council is respectfully called to this great evil. If the seat were as near the desk as it should be, a large proportion of the evils resulting from incorrect seating would be obviated. The children would not only be compelled to sit upright, but would find this position more agreeable. Your committee are convinced that a large part of the curvature of the spine which physicians charge upon the school-room would be prevented if the seat were placed sufficiently near the desk.

CONCLUSION.

The preceding discussion by no means covers the whole ground of school hygiene, but is designed merely to call the attention of this council to several important defects in the present working of our school system, and to suggest concerted action along a few lines only, looking towards a remedy for existing evils. Your committee would therefore beg leave to make the following suggestions:

1. It is high time that the authorities in the large cities should inaugurate a system of expert examinations with reference to the hygienic and sanitary conditions of their city schools.

2. We would respectfully represent to the several state departments of public instruction, that, in our judgment, such departments can render no better service than by causing to be made, by a competent commission, wisely appointed, an exhaustive report upon school hygiene, to be widely circulated, and giving to the community information universally needed. Such a report should be the result of the most careful study and inquiry into the various questions constantly arising concerning school sanitation and hygiene; and it should give due attention to the wants of both country and city schools,—large school-houses in towns and one-room buildings in rural districts.

3. We would urge, with strong emphasis, the leading manual

training schools, technical schools, and universities in our country to incorporate into their courses the careful study of school sanitation and hygiene.

4. Your committee would further distinctly emphasize the importance of more extended instruction for the teachers of the public schools of our country upon this subject of school hygiene, such instruction to be particularly given in teachers' institutes, summer schools, and normal schools.

5. The best results will not be accomplished until cities shall extend the proper power and authority and place the needed responsibility for better results in these directions upon the city superintendents.

William A. Mowry, chairman; Frank A. Fitzpatrick, Mary E. Nicholson, Joseph Baldwin, C. B. Gilbert, committee.

A Function of the Technical School:

The Preparation of Manual and Industrial Training Teachers.

(Mr. Charles H. Keyes, of Pasadena, Cal., of the committee on technological education, presented a report on the above subject before the National Council. We give portions of the address.)

MANUAL TRAINING.

"Manual training, whether viewed as a subject or method of instruction, is yet in its infancy. It has established its right to a place in our educational system, and shown that its general introduction is but a question of time.

"We long ago learned that the only way to elevate teaching was to elevate the teacher; that the central school problem was simply the teacher problem. Hence, our training schools, normal schools, and departments of pedagogy. With the introduction of every new subject into the school curriculum, we have had to learn this lesson anew. Drawing never amounted to much until trained drawing teachers took the place of mere artists. Music was never what we hoped it might be until music teachers took the place of mere singers. So manual training will continually fall short of realizing the desired results until trained teachers take the place of merely skilled artisans or inexperienced engineers.

"The teacher demanded for this service should be, first of all, a teacher, and not an artisan or an engineer. His specialty should be, first of all, that of a teacher, and not an artisan or an engineer. His specialty should be first of all, education, and not some branch of mechanical art.

"To be a teacher is to be possessed of moral, physical, and intellectual health, to be possessed of such culture and power as shall inspire the young to desire strength and cultivation for themselves, to possess such mastery of the subject of instruction, such art in imparting knowledge, as to make certain that youth shall transform that knowledge into the wisdom which alone is power. To be a teacher is to know books well and boys better.

"But to be a manual training teacher, who shall truly advance the cause of industrial education, is to be this and something more. To the equipment for general instruction must be added technical art; mastery of tools, processes, and materials, through contact with which shall be developed conscious, skilful energy, through experience with every other faculty shall be reduced to the dominance of the will.

"The manual training teacher needs rather more of the teaching art and the philosophic training which alone can give the power to study human development accurately, because his must in the nature of things be largely individual work. He needs to know books well, tools better, and boys best.

It is necessary to notice the present sources of supply for manual training teachers. At the outset we are confronted with the fact that there are but five institutions in America that offer courses for the special and professional preparation of manual training teachers, and in at least three of these no adequate literary or academic requisition for admission is made.

"The graduates of the manual training high schools, who, in turn, take places as teachers in such schools, labor under an additional disadvantage. They are not only without professional training for the work of teaching, but have had from three to four years less academic culture than the graduates of technical colleges. The line of study necessary to make a professional teacher out of a technical school graduate must, for the manual school graduate, be strongly re-enforced to make up for lack of general education. He possesses one definite advantage over the technical school graduate in that he already has the method of the training school.

"With all these limitations upon special preparation of manual training school teachers, we have, nevertheless, a large proportion of skilful instructors who have, through private study, come to be artists in their profession. These are re-enforced in number by those who have had the training of normal school and college, and who, after years of experience, have taken special courses to gain technical skill.

"For the future some things seem definitely settled. First, the teacher of elementary manual training must also be available as the teacher of the common school. For the mass of scholars no special teacher of manual training will be possible. This being the case the institutions which provide us with the great body of trained teachers for the district school, to wit, our normal schools, should provide instruction in elementary manual training. This should include at least work in sloyd. freehand drawing, clay modeling, and wood carving.

"Opportunity for the preparation of teachers must be provided before the best manual training will come to be a common thing. Then we will cease to have illiterate manual teachers. Then lack of ordinary culture and scholarship will be as intolerable in a teacher of cooking, or sewing, or drawing, or forging as in a teacher of history, or science, or literature.

"We must remember," said Mr. Keyes toward the close of his paper, "that no matter what the subject of instruction the teacher is but giving to his pupils the best that is in himself. No matter how infinite the literature or how profound the science we are simply giving our best selves to the youth who come in contact with us. The humbler the medium of that giving the more the necessity for the greatness of the gift. The teacher of forging or sloyd needs more to be good and great and wise than does the teacher of history. He need not fear the magnifying of his calling; he cannot have too much respect for himself or for the teaching art."

Natural Methods in Teaching Music to Children.

(Report of an address by President G. Stanley Hall, of Clark University before the Music Department of the N. E. A. at Buffalo, July 8, 1896)

Mr. Hall reported preliminary results of a comprehensive syllabus study by Miss Marsh and himself. Music is the language of the heart as speech is of the head. It teaches courage, sympathy, joy, and educates the emotions as nothing else does. It makes the life of the heart in which we live full, rich, and deep, and should be restored toward the dominant place it had for Plato and among primitive people.

He plead for letting babies cry moderately, cultivating heartiness in modes of laughter, and la-laing because they educate chest, lungs, and mouth.

First instruction should be acted song-stories taught by imitation. There should be plenty of animal noises, interjections of the ding-dong, chu-chu, pat-a-cake, hurrah order, with onomatapoesis and Mother Goose, and other forms of speech music prominent. As the story element grows and action decreases, the songs should be first read effectively. Wide intervals like

Scotch songs written in the old five-note scale and in any key suitable to the child's voice can be used. Notes should never intrude at this stage between the mind and its object, music and words should be kept together, should be divorced as little as possible. There should be no attention drawn to methods of voice production except to correct the worst errors. Notes are anti-pedagogical before eight or nine years of age.

Our census of many hundred favorite songs of children shows that songs of sentiment, like love and home, lead all the rest and increase up to the age of eighteen. Next come songs of patriotism, soldiering, and marches, in which boys excel girls and which culminate in the twelfth year. Songs of nature come third, religion fourth, with comic songs far behind. Thus home, country, nature, God, are the chief themes children love in music.

Thus the chief qualification for a teacher in kindergarten and lower primary is first, the knowledge of a good number of the very best ballads and folk songs and power to sing them sympathetically. I believe there is nothing so educational as to cadence the soul in this way early and nothing so anti-pedagogic as appeals to the intellect by notation and reading methods which should come in gradually at least two years later than they now do. Children are ear-minded first and eye-minded much later, and I plead for a carefully and slowly developed song canon or bible and the publishers waive copyright for those chosen. A German school I knew invited me to select from a list of fifty chorals and folk songs before they knew much of scales, keys, or even staff.

Later the abstractions of chords and scales, and notes or figures, modulation, special voice culture, breathing, etc., have their true place. The differences between "Normal," "American," "Natural," and other methods have been magnified beyond all proportion, reason, or precedent, and tonic sol-fa with its admirable device of a movable *do* is in many other respects the worst of all.

The speaker then passed to a discussion of musical "haunts," children musically exceptional, the proper range of the average child's voice, the phenomena and treatment of change of voice and the cultivation of musical memory.

Should we Have Military Drill in the Public Schools?

(Abstract of a paper read before the Physical Education Dept. of the N. E. A., at Buffalo, July 9, 1896 by D. A. SARGENT, M. D., of Harvard University.)

Every ten or twelve years the question of military drill in our public schools is brought prominently before the community.

By many persons military drill is strongly advocated as an admirable means of physical training.

Some years ago I examined a large number of boys coming from the schools of Boston where they had practiced military drill from early youth, and I found many of them with physical deficiencies and deformities resulting from this one-sided exercise.

My principal objection to military drill as a means of physical training was then and is now that it does not in itself, even under the most favorable circumstances, meet the physiological requirements of a perfect physical exercise.

An exercise in order to furnish good physical training must be interesting enough in itself to engage one's attention. It must furnish a weight or resistance to be overcome. It must be performed with sufficient vigor and rapidity to engage the energetic contraction of the muscles employed. It must bring into action as many muscles as possible. It must insure increased activity of the heart and lungs in order to improve the circulation and respiration. There must be no tetanized movements, but alternation in the exercises, in order to improve the nutrition of both muscles and nerves. There must be co-operation and co-ordination of the muscles, which involves the training of the central nervous system.

Military drill, as conducted in schools, is not of sufficient interest, as a means of physical development to arouse any moral earnestness and enthusiasm on the part of the boys. Take away the uniforms, prize drills, public parades, brass bands, and flowers, and the exercises would be considered tedious in the extreme. The exercise of the manual is not performed with sufficient force and rapidity to engage the energetic contraction of the muscles employed.

It is essentially a one-sided exercise, bringing into excessive action the elevators of the right scapula, the deltoid, biceps, flexors of the forearm, wrist, and fingers of the right side; while the other muscles, excepting the legs on parade days do not get sufficient employment to keep them in good condition. It does not increase the respiration and quicken the circulation to a sufficient extent to secure the constitutional benefits that should accrue from exercise.

During the drill the clothing is buttoned close around the chest and natural respiration is hindered. The muscles are not alternately contracted and relaxed, but are tetanized or kept in a state of prolonged contraction. This not only impairs the tone of the muscles used, but it also puts additional strain upon the brain and nervous system at a time when both should be as much relieved as possible.

Finally, the mere exercise of the manual does not give sufficient breadth and scope of movement to secure the co-operation of the muscles, and as a training for the central nervous system, it has little or no value.

All of the great military nations of the world recognize the insufficiency of the technical branches of the service as a means of developing men, and have introduced a set of gymnastic exercises into their army regulations, in order to put their soldiers in better physical condition.

It is the gymnastic exerciess, not the military drill, that gives the erect figure which is so much admired.

If, then, our great military nations think it desirable to give men a preliminary gymnastic training in order to make them good soldiers, is it not a little absurd for us to introduce into our public schools the technical drill of the soldier, in view of developing our boys into able-bodied men?

During our late Civil war more than half the men who were drafted or who applied for enlistment were rejected on account of physical disability and disease. If the presumable object of introducing military drill into the public schools is to prepare our boys to be possible soldiers in time of war, would it not be a much more rational procedure, in view of the fact just quoted, to first train them to vigorous health by the systematic practice of all-round gymnastic and athletic exercise?

Under such a regime we should not have fifty per cent. of our young men exempt from service in time of war on account of physical disability, or an army of boy soldiers made vain, conceited, and *blasé* because their limited school drilling has made them think they know it all.

I believe that the influence of good representative art upon our school-house walls will exert much the same effect in national art education that representative books do in our literature.

ROSS TURNER,
Salem, Mass. Artist.

They make their silent and constant appeal, refining and elevating the thoughts and feelings of all who come into their presence. Works of art help powerfully in creating an atmosphere that is favorable to growth in pure and noble character.

S. T. DUTTON,
Brookline, Mass. Superintendent of Schools.

The School Room.

The Earth's History.

MATERIAL FOR A SERIES OF TALKS.

(This article as prepared is for use in the higher grades. Teachers whom it interests may adapt its facts to any class that knows of the earth as a whole.)

The land which we now see has been formed out of the wreck of an older land. Some of the more familiar kinds of rock, though they are now portions of the dry land, were originally sheets of gravel, sand, and mud, which had been worn from the face of long-vanished continents, and after being spread out over the floor of the sea were consolidated into compact stone, and were finally broken up and raised once more to form part of the dry land. This cycle of change involved two great systems of natural processes. On the one hand, by the action of running water the materials of the solid land are in a state of continual decay and transport to the ocean. On the other hand, the ocean floor is liable from time to time to be upheaved by some stupendous internal force akin to that which gives rise to the volcano and the earthquake. Not only have the consolidated materials been disrupted and elevated, but masses of molten rock have been thrust upward among them, and cooled and crystallized into large bodies of granite and other eruptive rocks which form so prominent a feature on the earth's surface.

Every part of the surface of the continents, from mountain top to seashore, is continually undergoing decay, and is thus slowly traveling to the sea. No sooner will the sea floor be elevated into new land than it must necessarily become a prey to this universal and unceasing degradation. As the transport of disintegrated material is carried on chiefly by running water, rivers must slowly dig out for themselves the channels in which they flow, and thus a system of valleys, radiating from the water parting of the country, must necessarily result from the descent of the streams from the mountain crests to the sea. This ceaseless and widespread decay would eventually lead to the entire demolition of the dry land, but that from time to time this catastrophe is prevented by the operation of the underground forces in fresh upheavals.

HEAT AND EROSION.

Subterranean heat has been a force largely instrumental in consolidating and upheaving the ancient sediments that now form so great a part of the dry land. A long and orderly series of such successive destructions, and renewals has taken place and left its records in the crust of the earth.

The stratified rocks occur in a definite sequence, and each well-marked group of them can be discriminated from the others and identified by means of its inclosed organic remains.

Within the earth's crust lie the chronicles of a long history of plant and animal life upon this planet.

Thus it opens a magnificent vista through a vast series of ages, each marked by its own distinctive types of organic life, which, in proportion to their antiquity, departed more and more from the aspect of the present world.

From the earliest times men watched the coming of clouds, the fall of rain, the flow of rivers, and recognized that on this nicely-adjusted machinery the beauty and fertility of the land depend. But this beauty and fertility involve a continual decay of the terrestrial surface. The soil is a measure of this decay, and would cease to afford us maintenance were it not continually removed and renewed. Through the ceaseless transport of soil by rivers to the sea the face of the land is slowly lowered in level and carved into mountain and valley. The materials thus borne outward to the floor of the ocean are not lost, but accummulate there to form rocks, which, in the end, will be upraised into new lands. Without the circulation of water the life of plants and animals would be impossible, and with that circulation the decay of the surface of the land and the renovation of its disintegrated materials are necessarily involved.

THE ORDER OF NATURE ALWAYS THE SAME.

The oldest terrestrial records reveal no physical conditions essentially different from those in which we still live. The present order of nature must be our guide to the interpretation of the past. The loss of heat, which demonstrably takes place both from the earth and the sun, makes it quite certain that the present could not have been the original condition of the system. This diminution of temperature, with all its consequences, is a fact of the present time. Yet, at no very distant date the snows and glaciers of the arctic regions stretched southward into France.

After man had become a denizen of the earth a great physical change came over the northern hemisphere. The climate, of this region which had previously been so mild that evergreen trees flourished within ten or twelve degrees of the North Pole, now became so severe that vast sheets of snow and ice covered the north of Europe and crept southward beyond the south coast of Ireland, almost as far as the southern shores of England, and across the Baltic into France and Germany. This arctic transformation was not an episode that lasted merely a few seasons, and left the land to resume thereafter its ancient aspect. With various successive fluctuations it must have endured for many thousands of years. When it began to disappear it probably faded away as slowly and imperceptibly as it had advanced, and when it finally vanished it left Europe and North America profoundly changed in the character alike of their scenery and of their inhabitants. The rugged, rocky contours of earlier times were ground smooth and polished by the march of the ice across them, while the lower grounds were buried under wide and thick sheets of clay, gravel, and sand, left behind by the melting ice. The varied and abundant flora which had spread so far within the arctic circle was driven away into more southern climes.

But most memorable of all was the extirpation of the prominent large animals which, before the advent of the ice, had roamed over Europe. The lions, hyenas, wild horses, hippopotami, and other creatures either became entirely extinct or were driven into the Mediterranean basin and into Africa. In their place came northern forms—the reindeer, glutton, musk ox, woolly rhinoceros, and mammoth. Such a marvelous transformation in climate, in scenery, in vegetation, and in inhabitants within what was, after all, but a brief portion of geological time, though it may have involved no sudden or violent convulsion, is surely entitled to rank as a catastrophe in the history of the globe. It was probably brought about mainly, if not entirely, by the operation of forces external to the earth. No similar calamity has befallen the continents within the time during which man has been recording his experience.

The various agencies called into play by the extensive refrigeration of the northern hemisphere were not different from those with which we are familiar. Snow fell and glaciers crept as they do to-day. Ice scored and polished rocks exactly as it still does among the Alps and in Norway. There was nothing abnormal in the phenomena save the scale on which they were manifested. Those same natural processes we know to be integral parts of the machinery whereby the surface of the earth is continually transformed.

Astronomy made known the immeasurable fields of space; geology reveals boundless distances of time. The more the terrestrial chronicles are studied, the further the eye ranges into an antiquity so vast as to defy all attempts to measure or define it.

From the high internal temperature of our planet, increasing inward as it does, and from the rate of loss of its heat, a limit may be fixed to the planet's antiquity. Every lineament of the solar system bears witness to a gradual dissipation of energy from some definite starting point. No very precise data are available for computing the interval which has elapsed since that remote commencement.

The universal degradation of the land, though it goes on without ceasing, yet from century to century seems to leave hardly any perceptible trace on the landscapes of a country. Mountains and plains, hills and valleys, appear to wear the same familiar aspect which is indicated in the oldest pages of history.

RATE OF DECAY.

But the rate is capable of actual measurement. The amount of material worn away from the surface of any drainage basin and carried in the form of mud, sand, or gravel by the main river into the sea represents the extent to which that surface has been lowered by waste in any given period of time. As much material must be laid down in sedimentary accumulations as has been mechanically removed, so that in measuring the annual bulk of sediment borne into the sea by a river we obtain a clue to the rate of denudation of the land.

The activities involved in the lowering of the surface of the land are not everywhere equally energetic. They are naturally more vigorous where the rainfall is heavy, where the daily range of temperature is large, and where frosts are severe. Hence they are obviously much more effective in mountainous regions than on plains; and their results must constantly vary, not only in different basins of drainage, but even, and sometimes widely, within the same basin. Actual measurement of the proportion of sediment in river water shows that while in some cases the lowering of the surface of the land may be as much as 1-730th of a foot in a year, in others it falls as low as 1-6800th. In other words the rate of deposition of new sedimentary formations, over an area of sea-floor equivalent to that which has yielded the sediment, may vary from 1 foot in 730 years to 1 foot in 6,800 years.

If now we take these results and apply them as measures of the length of time required for the deposition of the various sedimentary masses that form the outer part of the earth's crust, we obtain some indication of the duration of geological history. On a reasonable computation, these stratified masses, where most fully developed, attain a united thickness of not less than 100,000 feet. If they were all laid down at the most rapid recorded rate of denudation, they would require a period of 73,000,000 of years for

their completion. If they were laid down at the slowest rate, they would demand a period of not less than 680,000,000.

On the whole, the accumulation of sediment has been extremely slow. Again and again we encounter groups of strata composed of thin, paperlike laminæ of the finest silt, which evidently settled down quietly and at intervals on the sea bottom. We find successive layers covered with ripple marks and sun cracks, and we recognize in them memorials of ancient shores, where sand and mud tranquilly gathered as they do in sheltered estuaries at the present day.

These sedimentary deposits have not been laid down in one unbroken sequence, but have had their continuity interrupted again and again by upheaval and depression. There is yet a further and impressive body of evidence furnished by the successive races of plants and animals which have lived upon the earth and have left their remains sealed up within its rocky crust. From the remotest times up to the present day, there has been an onward march of development, type succeeding type in one long continuous progression.

EVOLUTION OF SPECIES VERY SLOW.

As to the rate of this evolution precise data are wanting. We know that within human experience a few species have become extinct, but there is no conclusive proof that a single new specie has come into existence, nor are appreciable variations readily apparent in forms that live in a wild state. The seeds and plants found with Egyptian mummies and the flowers and fruits depicted on Egyptian tombs are easily identified with the vegetation of modern Egypt. The embalmed bodies of animals found in that country show no sensible divergence from the structure or proportions of the same animals at the present day. The human races of Northern Africa and Western Asia were already as distinct when portrayed by the ancient Egyptian artists as they are now, and they do not seem to have undergone any perceptible change since then.

Thus a lapse of four or five thousand years has not been accompanied by any recognizable variation in forms of plant and animal life.

If, however, we extend our vision beyond the narrow range of human history, and look at the remains of the plants and animals preserved in those younger formations which, though recent when regarded as parts of the whole geological record, must be many thousands of years older than the very oldest of human monuments, we encounter the most impressive proofs of the persistence of specific forms. Shells which lived in our seas before the coming of the ice age present the very same peculiarities of form, structure, and ornament which their descendants still possess. The lapse of so enormous an interval of time has not sufficed seriously to modify them.

There is no reason to think that the rate of organic evolution has ever seriously varied; at least no proof has been adduced of such variation. Taken in connection with the testimony of the sedimentary rocks, the inferences deducible from fossils entirely bear out the opinion that the building up of the stratified crust of the earth has been extremely gradual.

If the broad masses of land and the great chains of mountains owe their origin to stupendous movements which from time to time have convulsed the earth, their details of contour must be mainly due to the eroding power of running water. As the surface of the land is continually worn down, it is essentially by a process of sculpture that the physiognomy of every country has been developed, valleys being hollowed out and hills left standing, and these inequalities in topographical detail are only varying and local accidents in the progress of the one great process of the degradation of the land.

Each mountain chain is a memorial of many successive stages in geographical evolution. Within certain limits land and sea have changed places again and again. Volcanoes have broken out and have become extinct in many countries long before the advent of man. Whole tribes of plants and animals have meanwhile come and gone, leaving their remains behind them as monuments at once of the slow development of organic types and of the prolonged vicissitudes of the terrestrial surface.

There are hills that project above the lowlands, not because they have been upheaved into these positions, but because their stubborn materials have enabled them better to withstand the degradation which has worn down the softer strata into the plains around them. Inch by inch the surface of the land has been lowered, and each hard rock successively laid bare has communicated its own characteristics of form and color to the scenery.

The living plants and animals of to-day have been discovered to be eloquent of ancient geographical features that have long since vanished. In their distribution they tell us that climates have changed, that islands have been disjoined from continents, that oceans once united have been divided from each other, or, once separate, have now been joined; that some tracts of land have disappeared, while others for prolonged periods of time have remained in isolation.

To Collect and Prepare Lepidoptera

For the Cabinet.

THE NET.

For a handle procure a light piece of pine three feet long and one inch in diameter. Take a piece of telegraph wire five feet long and bend it into a hoop. Bore a hole in the handle near one end and push six inches of each end of the wire hoop through from opposite sides. Then bend the ends down lengthwise of the handle and secure them with small staples or by driving the ends of the wire into the wood. The hoop should be fourteen inches in diameter when completed. An excellent rim for a net can be made with rattan. Take a piece of rattan rather thicker than a lead pencil and bend it into a hoop, bevel the ends and fasten them together by winding with fine iron wire. Bore two holes, four inches deep, lengthwise in one end of the net handle. Take two pieces of rattan, each one foot long, and drive them into the holes, using a little shellac to fasten them. Make a long bevel on the ends, groove them out a little, spread them apart and wire the rattan hoop to them as shown in the cut. The whole should then be given a coat of shellac. The pieces of rattan will bend better if soaked for an hour in hot water.

FASTENINGS FOR NET RIMS.

FASTENINGS FOR NET RIMS.

Mosquito netting is a good material for a net, but it should be soft and fine and of some inconspicuous color such as brown or green. The netting can be fastened to the rim with strong thread. Carpet thread will answer.

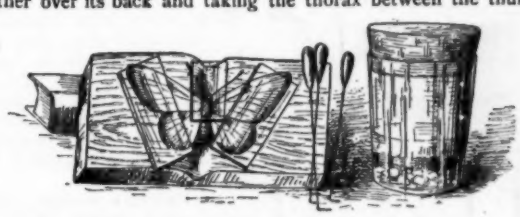
A well made net should be eighteen inches deep and rounded at the bottom. Silk veiling makes an excellent net, but is more expensive.

COLLECTING BOTTLE.

A thin glass tumbler with a tight fitting cork stopper answers well. Put into it one ounce of Cyanide of Potassium broken into fragments. (Do not breathe the fumes. POISONOUS.) Cover the cyanide with half an inch of dry sawdust pressed down. Mix a small quantity of Plaster of Paris and water and pour half an inch over the sawdust. When the plaster hardens the bottle is ready for use and will kill in a few moments, without injury, all insects placed in it.

SETTING BLOCK, NEEDLES, AND COLLECTING BOTTLE.

When an insect is caught in the net, gently fold its wings together over its back and taking the thorax between the thumb



SETTING BLOCK, NEEDLES, AND COLLECTING BOTTLE.

and finger give it a slight pinch which will disable it without injuring its appearance. It may then be taken out of the net, placed in a collecting paper and put into the poison bottle.

Collecting papers are made thus.

COLLECTING PAPERS.

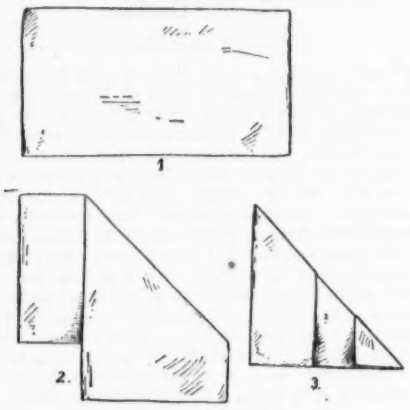
Ordinary newspaper will answer for these.

When insects are plentiful, a tight box of wood or tin may be substituted for the bottle, as these can be made to hold a large number of specimens in their papers.

TO DRY SPECIMENS.

In moist climates specimens will have to be dried artificially to secure them against decay and mold. Have a light, tin-lined box made ten inches cube, with detachable legs, one side hinged for a door, a hole in the bottom large enough to admit the top of a lamp chimney, and the top perforated with small holes. A wire shelf should be arranged in the box on which to place the specimens in their papers and a tin cone covering the aperture for the

lamp chimney, to prevent the burning of the specimens. A large number may be dried in this way in an hour or two.



COLLECTING PAPERS.

TO SPREAD SPECIMENS.

The wings of a freshly killed insect may be spread on a setting-board by putting a pin through the thorax. (This pin should be removed before the specimen is dry,) spreading the wings, with fine needles, so that they may lie on a level with the top of the body and allowing them to dry. Strips of glass laid on the wings will hold them in place.

A soft pine board with a groove deep enough to admit the body of the insect, makes a good setting-board. If the ends of the setting-needles are covered with sealing wax it will make them more convenient to use.

When specimens have been dried folded, they will have to be relaxed in a damp box before they can be spread.

Take a tight, covered box, one foot square and five inches deep. Paint it inside and out, and put into it two inches of wet sawdust. Secure a light wooden frame, with netting stretched over it, into the box an inch above the sawdust, and place the dried insects on the net. Twenty-four hours will generally suffice to render them pliable.

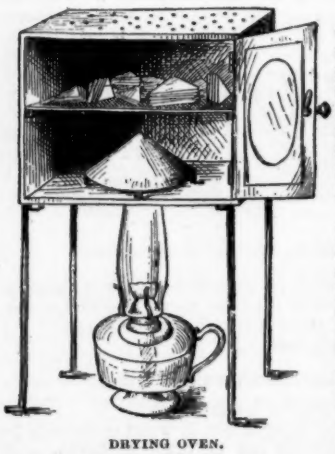
For mending broken insects and replacing detached antennæ and legs, use white shellac.

For handling insects, use smooth, broad-tipped forceps.

To restore the beauty of greasy specimens, place them in benzine in a shallow covered pan, for twenty-four hours or longer, when they will come out bright and clean. Downy or hairy specimens may need a little blowing to restore their fluffy appearance.

The fumes of bisulphide of carbon will kill insect pests which may have found their way among unmounted specimens. Pour an ounce or two into a dish placed in the cabinet and close it up tight for forty-eight hours. Care should be exercised in its use, as it is very volatile and explosive.

COLLECTING LEPIDOPTERA.



DRYING OVEN.

It is always a good plan to collect large numbers of specimens when they are plentiful, in order to select fine examples for the cabinet. In this way specimens of peculiar coloring, sometimes extremely beautiful and interesting, may be met with.

Different species make their appearance at different times. In tropical countries the latter part of the wet and the beginning of the dry season or, *vice versa*, will produce butterflies in the greatest abundance, but June and September will be found the prime months for collecting in our latitude.

Even before the snow is off the ground in the early spring, a number of species make their appearance and may be met with the first warm days along forest roads, or paths, or in clearings near the forests.

The buds or catkins of the willow are attractive to many species of night moths. A small dark lantern is very useful in searching for these. Warm muggy nights are best. By smearing trees and posts with molasses and rum and visiting them after dark, many kinds may be obtained.

A large number of varities are attracted towards a bright light at night. Place a lamp in the window and take them with the net as they come in. Warm, dark, cloudy or rainy nights will be found most productive. On such nights they will come, in favored localities, literally by hundreds, keeping the enthusiastic collector busy half the night.

Since the introduction of electric lights one may make grand collections by visiting them on warm summer nights.

The virgin females of the silk producing moths will attract the males in numbers. Place the female in a net and hang her out of doors where the light from a lamp placed in the window may show what visitors she has.

Just at dusk, several kinds of hawkmoths may be found hovering over the flowers of the garden. The lilac, syringa, pink, petunia, flox, and primrose are flowers especially attractive to them.

Many of the larger and handsomer papilios chase each other about in sunny openings in the woods. By catching, killing and pinning one in a conspicuous place, numbers may be taken, one or two at a time, with the net as they hover for an instant over their captive brother.

COLLECTING IN THE WOODS.

Over ripe or rotten sweet fruits, decaying animal substances and the flowers of the milkweed, thistle, clover, elder, goldenrod, etc. are attractive to some species of butterflies.

Sometimes gathered about a muddy pool in the road sipping up the moisture, certain species will be found in abundance, and may then be readily taken with the net or even with the fingers.

Beautiful specimens may be procured by rearing them from the larvæ. These may be kept in wooden boxes, half filled with damp earth and fed daily with fresh leaves from their food plant. They should be protected by netting from their natural enemies. After their transformation into chrysalids some will complete their development the same season, others should be kept over winter in the cellar.

The cocoons and chrysalids of many species may be found by diligent search under stones or bark, beneath leaves at the trunks of trees, hanging to the twigs of bushes, about old fences and farm buildings, in fact there is hardly a locality or a time of the year when the entomologist may not find material for his cabinet.

Care in collecting and spreading the specimens and neatness in mounting them in the tablets, will insure a beautiful collection, a never failing source of instruction and delight to the collector and his friends.

Sherman F. Denton.

Wellesley, Mass.

Child-Life in Syria.

By Anna Van Der Zee Lee.

Presentation.—The children of whom I shall tell you to-day do not belong to the higher classes, nor do they live in the cities. They live in the country, and on the mountains, principally on the slopes of Mt. Lebanon. (Have children point out Mt. Lebanon on the map or globe.) If you were to go to almost any of the large cities of Syria, you would be surprised to find that the children were dressed and acted very much the same as children do here. On the slopes of Mt. Lebanon also, there are many families of excellent birth, who still retain many of the native costumes and habits which are very picturesque. It is an unquestioned fact that some of the finest families found in the cities—finest physically and mentally,—are descended from these Mt. Lebanon families, or are families who make their home in the cities because their business is located there, while still retaining their mountain homes.

Dress.—The babies are wrapped, or rather bandaged, very closely with strips of linen. These strips bind the baby's arms closely to its sides. These bandages are removed every two or three hours and the little limbs rubbed and stretched to keep them from becoming limp and numb. The bandages are then replaced as before. The baby is then bound to a board-like cradle in the same manner. Syrian babies are kept bandaged in this way until they are two or three months old. The reason given for binding the baby in this manner is that if its limbs were left loose, they might be broken or grow crooked, while this prevents any accidents happening to interfere with its becoming a straight, perfectly-formed child. The baby is absolutely unable to move with the exception of its head, which it can roll from side to side, but is unable to raise. This position is accountable for the flatness of the back of the head that is to be seen among most of the Syrians. The children are dressed in long slips not unlike a plain sack night-dress, confined at the waist by a broad sash or girdle. This sash to a certain extent serves the Syrian boy in place of the number of pockets to which an American boy is accustomed. At the age of ten or eleven the boy begins to be called a man, although ever since he was about three or four years of age, he has been dressed like a man, in wide, full Turkish trousers, and a shirt, over which he wears a short jacket, coming only to the waist-line in the back, and opening to show the shirt in front. This jacket is sometimes heavily embroidered when worn by the sons of wealthy parents. They wear the fez

and, very rarely, the turban. The feet are slipped into low slippers with up-turned toes, similar to the "Turkish slippers" sold in the stores. It is amusing to see the children running around with the tassel gone from the fez, and the fez itself slit up the side. The best explanation I can give you of this is the one that was given me: "The father goes to get his child a fez, and as he does not take the little fellow with him, he forgets the size of his head, and brings home one too small, which he, however, fits to the boy's head by the simple process of cutting a slit in the side of the fez."

Food.—The principle food is of a vegetable character. The fruit of the fig-tree and the date-palm, apricots, grapes, olives, and these fruits dried or preserved form the greater part of the diet of the people. Meat is eaten, but compared with the amount consumed in this country, we should say very sparingly. The main meat used is the flesh of the sheep and lambs. This is, of course, eaten fresh during the summer, but it is cooked, seasoned in a peculiar way, and preserved in sealed jars for use in the winter. A peculiar feature of this method of preserving meat is the large quantity of grease which collects at the top of the jar. Eggs cooked in this grease are very delicious and are a pleasant addition to the morning's breakfast. The bread, which is made of wheat flour, is baked round and very thin, like one of the layers of a layer cake, and is generally about half a yard in diameter. Half of one of these loaves, as we may call them, spread thinly with some kind of preserve, and then rolled round like a jelly-cake is the average school-boy's breakfast.

Schools and School Life.—He takes this in one hand and with his pitcher of water in the other, starts for school. Water in the summer season is very scarce in some districts, and as none is supplied at the school, and as the boys are not allowed to move about the room, each boy carries his own supply. Sometimes so hearty is half a loaf of this bread, the boy finishes his breakfast after he is in school. He leaves his shoes at the door as he goes in. During the morning the boys sits cross-legged on the floor, as tailors do, and recite their lessons and learn new ones. They study very nearly the same subjects that children do here, except in the Mohammedan schools, which should scarcely be dignified by the name of school, as the schoolmaster is an ignorant man, —the chief subject studied in a Mohammedan school is the Koran, of which the children recite or chant certain portions over and over again until they are memorized. The noise and confusion in one of these school-rooms is almost incredible, as each boy studies his portion in a loud tone of voice. If he fails to recite, or becomes engaged in any mischief, the teacher is very apt to hit him with the long rod which he carries for this purpose. Sometimes one or two of the older boys hold him while the master hits him on the soles of the feet, the bastinado, as it is called. (See dictionary.)

But to return to our Syrian school. In the afternoon the school is held in the yard, if the school-house is so built that at this time there will be shade in the yard, and there each boy sits cross-legged on the ground with his bottle or pitcher of water beside him, writing in the sand or on a flat stone. The pen which he uses is a reed, sharpened to a point, much as quill pens were before steel pens became so common. They learn to write very nicely with these reed pens both in Arabic and in English and French, for these children learn both of these languages in addition to their own native tongue. I told you how each boy has to carry his drinking water to school in the summer. In the winter, in order to be at all comfortable in the school-room, each boy takes a few sticks of wood to school with him under his arm, and it is quite common to hear the boys in the morning as they are going off to school asking their mothers for a little more wood. The boys take this wood to school where it is piled up neatly in the corner, and the teacher uses it to keep the fire in the stove going. The stove is a very curious affair. It is made of clay and instead of being shaped like a cube, as our stoves are, it has but four sides, the front and top being open. The back and sides do not form distinct sides as in our stoves but curve round more like the back and side walls of a grate. These stoves are used because wood is scarce and dear, and they burn less wood than would be consumed in a fire-place. Moreover, a fire-place is unknown in the mountain districts because there are no chimneys in the rooms. The ceiling and walls are blackened with the smoke of years, yet, strange as it may seem, the eyes and the eye-sight of Syrian people are unusually good. The principal cause of their freedom from all eye trouble seems to lie in the fact that most of the fuel used is wood that is medicinal in character, the smoke from which is rather beneficial than otherwise, preventing disease.

Syrian boys are quite as well educated as are American boys. The schools in which they are taught have some of the most learned men in the world as teachers, and they have unusually bright and clever pupils, for a young man has completed his education in Syria, having passed through college and taken his degree, perhaps two, at an age when most young men in America are just thinking about entering college. If it were but possible for Syria to be released from the iron yoke of the Turkish dominion, she would soon take her rightful place among the nations of the earth, for the children and young men are not lacking in those qualities which make for success, and they are a finely developed nation, both mentally and physically the superior of their masters, the Turks. Much of this has been the result of the improved schools. About forty years ago, one of the prominent citizens of Beyrouth went to England and personally interested a number of wealthy men in her subject of Syrian education. So well did he plead his cause that he returned to Syria with power and with the money to establish good schools in that land for his countrymen. Jealousy caused him to retire from active work for the good of the schools, but the present excellent schools are the result of the individual effort of one Syrian gentleman, who, alone and unaided, made it possible for such schools to exist.

Houses.—The houses are built of stone, and are generally two stories in height in the mountains. The lower floor serves the same purpose that a cellar would here. It is used for storing wood and provisions in for use during the winter, and in addition is used as a stable for the horses and cattle. The family lives in the upper story, which connects with the ground floor from within. When the house is built but one story high, a part of it has to be partitioned off for the use of the cattle, and to store the wood and provisions in. Now, this arrangement of the houses is not because the people are not civilized and do not know how to live any better, but it is because in the mountains the winter is very severe. After a snow-storm, it is sometimes impossible to get out for a week or ten days and sometimes longer. The snow is piled up against the sides of the house and the people are snowed in. If they did not have their cattle stabled in the building with themselves, they could not get out to attend to them, and the cattle would perish, while having their wood and provisions stored away prevents them from dying from hunger and cold themselves. The houses are built of stone, as I have said, and the walls are very much thicker than are walls for houses of the same height here. They are built by laying two rows of mason work from large stones, one for the inside and the other for the outside of the wall, and then filling up the space between them with small pieces of broken stone, which makes a wall two or three feet thick. The roofs of these houses are flat, and in some of the poorer one-story houses are first thatched over with branches and limbs of trees. On these flat stones are laid and then earth is brought and the crevices are filled with that, and more is packed on and pressed down until a hard, flat roof of earth is made. After a rain the water, which has collected on these roofs has to be gotten off and the roof has to be rolled with a roller especially made for the purpose to make it hard and dry once more. Otherwise the water would soak through, if the roof itself did not fall in.

Games.—The boys have a number of games which are not known to American children. One of them is played with certain bones from the leg of a sheep. These bones are rounded (convex) on one side and curved in (concave) on the other. The largest bone is usually selected as the leader. The others are ranged inside a circle which is called a fort. The object of the game is to knock all of the bones out of the circle by throwing the leader at them and with each shot driving a bone entirely out of the circle. If it touches the circle the least bit, the bone must be put back again within the circle. If the first bone to be driven out of the circle by the leader goes out on its convex side, all the other must follow it on the convex side, and the same if it goes out on the concave side. The boy who succeeds in driving all of the bones out of the circle in order wins the game. This is rather a difficult thing to do, but the Syrian boys exhibit a great deal of skill in playing it. Another game which is a favorite among Syrian boys is after a rain to find a spot where the mud is still soft, and try to throw sticks having a sharp point at the end into it so that they will remain upright. When one boy has succeeded in making one of his sticks stand up straight, the other boys try to throw their sticks so as to knock his down, and leave their own standing upright in the mud. The Syrian children become very expert in playing this game.

A slightly different game of ball from any played in this country is played in Syria. As many holes are dug in the ground as there are players. One of the boys is chosen to take care of these holes. Standing as a certain distance away, the boys toss the ball toward, and try to have it fall into one of these holes. If it does so, the boy standing by them pick it up, and throwing it, tries to hit one of the players, who, if he is hit, must come and take his place in charge of the holes. A game somewhat similar to our blindman's buff is also played. It is called by a name which means "the tied monkey." One of the boys is blind-folded and tied by a long rope to a pole stuck in the ground. The other boys hit him with their handkerchiefs, and he tries within the space given him by the rope to catch the one who has hit him and tell his name, when that boy is blind-folded and tied up and the game commences over again. The boys have to be very quick in jumping back, after running near enough to strike the boy, to avoid being caught, and the boy who is tied has to be well acquainted with his tormentors in order to tell who it is after he has caught him. There are more chances in favor of the boy's getting away than of being caught unless the boy who is tied is very quick, because he cannot get at them if they are further away than the length of his rope.

Editorial Notes.

This number of THE JOURNAL will find many of its readers breathing a freshness of professional life among fellow teachers who gather from distant places to reinforce one another's brightness at summer schools. It is a privilege of the modern teacher, this comparing of notes and gathering of fresh insight and inspiration at the summer school. The product of a year's experience in our thousands of class-rooms used to be harvested in isolation by the individual teacher and chewed over to more discouragement than profit by many a wearied laborer in the educational vineyard. Now teachers may meet in large numbers where strong leaders are found, and besides the help of these leaders, which they purchase (whether they may be said to pay for it or not), they may enjoy without price the sympathy of peers in the work who have made mistakes similar to their own or scored little successes quite possible to all with the rich suggestion their stories convey. THE JOURNAL congratulates its readers of the present day upon their summer opportunities!

There is a great deal of anxiety among professional teachers in the New York schools regarding the appointment now pending of a supervisor of kindergartens. It is rumored that a person who has absolutely no working knowledge of the kindergarten system is to be employed. It hardly seems possible, with so many eminent specialists available, that an unqualified candidate should be placed in this important office. A superstition still prevails in remote districts that any one who can read can teach and that a good business head should be a good organizer of schools; but in the present temper of local educational feeling, it is not to be expected that any but the best available expert will be placed in charge of New York's kindergartens.

From a leaflet published by the New York State Anti-Vivisection Society at Saugerties, we quote: "America seems to have taken the initiative in introducing vivisectional experiments into schools, both public and private, even before children from seven to twelve years old." Is not the society misinformed? Are there really schools in which the law of compassion is so brusquely set aside and cruelty deliberately taught, by precept and example, to young children? We must be forgiven for doubting the authority upon which the society makes such a statement. The object of nature study is to teach universal sympathy. Surely no faddist has so perverted it in the much-abused name of science. If so let instances be mentioned and names named. General aspersions are always unjust. Where is this thing done?

There will be no issue of THE JOURNAL for the weeks ending August 1 and 8.

THE SCHOOL JOURNAL.

Established 1870. Published weekly at $2.50 per year, is a journal of education for school boards, superintendents, principals, and all teachers who desire to have a complete account of all the great movements in education.

We publish THE TEACHERS' INSTITUTE, monthly, $1.00 per year; THE PRIMARY SCHOOL, $1.00 a year; EDUCATIONAL FOUNDATIONS, $1.00 a year; and OUR TIMES (Current Events), monthly, 30 cents a year.

E. L. KELLOGG & Co., 61 East Ninth street, New York.

Letters.

Denton's Patent Butterfly Tablet.

Having accumulated a beautiful collection of butterflies and moths from different parts of the world only to see it finally destroyed in spite of all the care I had bestowed upon it, and knowing my experience had been that of hundreds of other persons, the necessity of some means by which specimens might be kept safe from the many dangers which threaten them, forced itself upon me. As the result of a good deal of thought, and many experiments, I have invented a simple, light, strong, glass-covered tablet which not only renders the destruction of the specimens impossible, but puts them in a shape at once more beautiful, and infinitely neater, than is possible by the antiquated method of impaling them on pins, a prey to insects, a refuge for dust and so fragile as to be broken even by a careless breath.

Some of the advantages of my invention over the old method of pinning insects are these:—

They are protected against breakage, dust and museum pests, and specimens once so put up are good for hundreds of years.

A collection thus mounted needs no care whatever, neither is it necessary to have tight boxes or cabinets and one may leave his collection indefinitely without the least danger.

There is no odor from the specimens, neither is it necessary to fumigate the cabinet at all, and the vile smells caused by the use of naphthaline and bisulphide of carbon, are entirely done away with.

There are no pins to obstruct a view of the specimens, or to make them appear as if impaled alive.

There is no danger in showing the collection to *any* one, and the most valuable specimens may be handed around for a close inspection of their beauties without the least danger of breakage.

Lastly, the wings of specimens mounted in this way lie perfectly flat, as the glass rests directly on them and they therefore cannot lop down or warp up, as pinned insects are liable to do.

One has only to glance at the miserable display of lepidoptera in our public museums, to see that the present methods of mounting and exhibiting such collections are primitive and poor, and not up to what might be expected of such institutions in this age of progress. The lepidoptera exhibit, with a small outlay of money and labor, might be made most beautiful and attractive, and many will be surprised to see how lovely are some of our most common things mounted by this new method, making each specimen a picture.

The tablets are made of many sizes, to accommodate every variety of specimen. They are flat on the top, with a body cavity of the size and shape to fit the body of the insect; are white with a glass-like polish on the face; are hollow at the back, in order to be as light as possible, and this hollow is covered with cardboard when the insects are mounted.

They are inexpensive, and range in price, according to size, from two cents upward. The average sizes costing four or five cents each. SHERMAN F. DENTON.

Wellesley, Mass.

I have been acquainted with THE SCHOOL JOURNAL since it came into your possession in 1874. During the last ten years I have been a reader and subscriber and I am very glad to say that THE JOURNAL has been constantly growing in interest and value for me.

Many articles published have no immediate bearing on my work, yet I consider it a valuable and necessary paper for me. It has grown much in breadth and interest during the past year. Enclosed find subscription for another year. R. H. CORNISH.

Morgan Park Academy, University of Chicago.

Leading Events of the Week.

It is reported that some of the entombed miners at Pittston, Pa., are still alive. Rappings heard on the walls of the mine.——Christian insurgents in Crete defeat the Turks.——Confederate veterans meet at Richmond, Va.; the corner stone of the Davis monument laid.——The political crisis attending the Democratic convention causes stocks to drop $300,000,000 in twelve days.——A mob of 10,000 strikers and their sympathizers attack policeman and workmen in Cleveland, Ohio.——Gen. Campos accuses Spanish government of cruelty in the government of Cuba.——Two more big cannon to be placed at Willets point in Long Island sound.——Spain trying to make England an ally.——The trouble in Crete causes great anxiety; it is feared it will endanger the peace of Europe.——A hot fight between the gold and silver men in the Democratic convention at Chicago.——The filibustering steamer *Three Friends* chased and fired upon by the Spanish cruiser *Magellanes*, near Key West, Fla.

What One Town is Doing.

(CONTINUED FROM PAGE 9 OF THE JOURNAL OF JULY 4.)

Another interesting experiment of which time will permit me to speak only briefly, is our training class for college graduates. Eight graduates, all of high standing, representing four colleges, were received last September, and have continued in training to the present time. The main purpose has been to see if liberally educated women cannot be induced to seek a career in teaching and supervising the lower grades of schools, as well as high schools.

These two experiments, namely, the education society and the college training class, seem to me to meet two of the greatest needs of our Eastern schools: First, a recognition on the part of the people generally, that the education of the masses is vital to the welfare of the American commonwealth. Second, that a part at least of the great potential of ability and scholarship, now coming forth from our colleges, especially those for women, should be utilized more than is now done in the prosecution of this great work. The broader thought and finer spirit of the new education is needed just as much in the home, in the church, and in society generally, as in the school, for education in its best sense is life, and everything in the environment and experience of the child should tend to make that life fuller, richer, deeper. The organization of communities to the end that the school-house may become a social and educational center is sure to result in a larger recognition of the functions of popular education, and a diffusion of that sympathetic spirit that is needed to insure the finest results. We must have good fathers and mothers, as well as good teachers, in order to make sure of happy childhood, and a harmonious development of power. The school is only one of many forces that educate, and the aim should be not only to so organize it that it may do its part, but to bring it into such relation with other forces, as the home, the library, the church, and society, that it may co-operate to the fullest extent. Hence, we do not hesitate in New England to declare that education is the greatest of all things in this world, for it means life and growth and the realization of the highest possibilities of our nature; but our schools must be freed from everything that tends to impede their growth, or to drag them down to the low level of mercenary or political ends. There must be honesty and clear intelligence in their management and freedom and enthusiasm in the working out of their inner life. The letters of Matthew Arnold revealed the fact that that he hated his vocation of school inspector, and found his real pleasure in the world of letters to which, as a scholar and a poet, he was so well accredited. The difficulty was probably not that he disliked the problems of education in their essence, but he abhorred the mechanical and narrow schemes upon which the English schools were constructed.

I believe the same thing might be said of many workers in the educational field in this country, but the time is near at hand when all who believe in a freer, larger conception of education can join hands in a concerted movement that shall accomplish something better than has yet been seen. S. T. DUTTON.

Brookline, Mass.

Texas State Teachers' Association.

AUSTIN, TEXAS.—The State Teachers' Association which met in the state university building numbered about 500.

In his address of welcome Governor Culberson said, "The very basis of our civilization is bound up in the public schools of the state. You are a part, and a great part of the system of which this university is the climax—you are the foundation upon which its structure is reared." He pledged himself to the cause of education as a public officer and servant of the people, and announced that he soon hoped to increase the *per capita* school fund to $4.25 and the term of the public schools to five or six months.

Prof. S. W. Stanfield, of San Marcos, read a paper on "Wherein the Public School Instruction in Practical Ethics Fails to Meet the Demand." His paper made a strong plea for practical ethics in the public schools, so that the citizen, through the pupil, may be fitted to solve the problems which menace the public peace.

In the discussion Prof. J. W. McNeeley, of Richmond, said:

"Before we can determine wherein public school instruction in practical ethics fails to meet the demand, we must first ascertain the nature and extent of that demand; and, then, too, we should be certain of the character of the standard we employ in estimating the extent of the failure. No one will deny that the primary object of popular education, as a measure of state policy, is so to form the character and train the minds of the young that they shall be delivered from the desire of what is low, vicious, and unjust; that they shall comprehend their right and shall be willing to perform all their duties as citizens of a free state, thus superceding the necessity, the expense and shame of criminal prosecutions and ignominious punishments."

Prof. R. E. Wilson, of Gainesville, said that the public schools fail to meet the demand because practical ethics are not taught at all.

"The indifference with which the subject is understood is illustrated in the answer given by a pupil once to the question: 'What is ethics?' that it was 'what the dentist gave when he extracted teeth.' Too many are intellectually cultured but morally ignorant. Good citizenship is the hope of the country, and in so far as the public schools contribute to this result they are entitled to the fostering care of the legislator and the state. All that they lack in this respect rightly subjects them to the criticism of the public, whose pride the cause and wholesome progress of education should ever be."

Dr. Baldwin, recently of the faculty of the university, made a brief, but strong appeal for practical ethics as a part of the school curriculum.

Supt. C. D. Rice, of Belton, spoke on "A Plea for Better Mathematical Teaching," in which he favored the adoption of the metric system, the elimination of ratio and proportion, the overthrow of cancellation, the omission of cube roots and decimals, and the curtailment of discounts and percentages to the demands of every day business in the practical utility arithmetic of the future.

Supt. Cullen, of Flatonia, treated the "Personality of the Teacher as a Factor in Education." He called attention to the importance of the consideration of the teacher's personality, as from daily contact and association the pupil is led to follow the teacher's example and reflect his personality.

Texas Superintendents Meet.

AUSTIN, TEXAS.—At the convention of superintendents and principals the president, in his annual address, called their attention to the grave responsibilities which confront them as teachers:

"Texas, by reason of her wonderful resources and advantages, is attracting multitudes of emigrants from all parts of the world. Many of these come ignorant of the genius and the spirit of our constitutions, many others, including a vast number of our native population, are largely indifferent to the advantage, nay to the absolute necessity of a general education. As a result, in every city in our state may be found at almost any hour of the day or night groups of boys of school age—boys who ought to be in school—congregated, disseminating their vicious knowledge and practices—veritable kindergartens to feed the reform schools and penitentiaries. How can these boys be brought into the schools and retained? How can their parents be impressed with the grave danger to which their children and the state itself are being exposed? These, my fellow superintendents, are problems demanding our most earnest consideration."

"Another question deserving of serious thought is, are we doing our duty by the pupils of the public school along the line of moral training? When our pupils leave the school-room, are they as strong as they should be to resist temptations to dishonesty and vice? Have we given them the persistent training in right conduct, based upon sound principles of morals, to which they are entitled? Intelligence and virtue are the conditions of liberty. I charge that we have not adequately emphasized the second member of the partnership. Let not the accusation of teaching politics or religion deter us from impressing the fundamental principles underlying free government and sound morals upon our pupils that they may become prudent, far-seeing, patriotic, and virtuous citizens. To this end we need men of profound convictions, of prompt decision and of persistent execution. The manhood of the world is suffering from a lack of energy of will and tenacity of purpose. I have thought that perhaps our school training is partially responsible for this. Is there not too much rote-work and too little independent thinking; too much drifting and not enough self-directing intellectual activity? Text-books and systems of education may be so constructed as to destroy rather than to produce thought. 'It is not ease but effort, not facility but difficulty that makes men. * * * The skilful mariner obtains his best experience amidst storms and tempests, which trains him to self reliance, courage, and the highest discipline.' There has been too much outcry against the brutality of baseball and football; but it is my opinion that the manhood of our country is suffering more from the nerveless, purposeless, effeminate dude than from the strong-bodied, strong-willed American boy, the product of out-door sports."

Principal S. D. Magers, of Houston, read a paper on "City Teachers' Meetings."

Mr. Magers said that only one-sixth of the teachers in the United States have had the advantage of professional training before beginning the work of teaching, and therefore the greatest demand upon them is that they grow. The greatest demand upon the superintendents and principals is that they furnish conditions by which poor teachers may become strong and the strong ones stronger. The best means of accomplishing these results are the various teachers' meetings, including the general institute, the grade meetings, and the principal's meetings

"The one thing that must not be lost sight of in each of these meetings is that definite work be assigned for all members and that they be held responsible for the work assigned. The thinking should be done before the meeting, so that time is not wasted in meaningless extempore discussion. The work of the Houston general institute for the past two years has been based on EDUCATIONAL FOUNDATIONS, published by E. L. Kellogg. For the following year these teachers will study Quick's Educational Reformers.

"The chief results of the general institute are that it brings all the members of the system together, and numbers alone give inspiration; it causes each member for the time being to assume the attitude of a pupil, which alone will cause him to have more sympathy for some of those who may not understand his questions. The new teachers become acquainted with the workings of the entire system and with members of the institute. It is here that unity is put into the entire system.

"For further discussion of the work of the general institute I refer you to the paper read by Superintendent W. S. Sutton, at Jacksonville, before the National Association of Superintendents, on the training of teachers.

"The aim of the grade meeting should be to give unity of plan and scope to the work of the several teachers teaching the same grade, should furnish opportunity to the teachers to add to their stores—fresh knowledge of the subjects taught and to improve the methods of teaching them

"For superintendents and principals the study of school supervision with subjects, assigned from such books as Picard's or Howland Works of Supervision, such reports as that of the committee of fifteen and others on course of study, will do much to give efficiency to the schools. The one thing I wish to emphasize is that in all these meetings that members of the same meeting study one subject definitely that all be students as well as listeners."

The following officers for the ensuing year were elected: President, V. M. Fulton, of Cleburne; vice-president, J. E. Shelton, of Austin; secretary, G. W. Roache, of Abilene.

Correlation of Social Forces.

BROOKLINE, MASS.—At the dinner of the Massachusetts High School Masters' Association, Supt. Dutton gave an address on "The Correlation of Social Forces in the Community."

High school masters, thought Mr. Dutton, hold the vantage ground of all educational workers, because they have the care of pupils at the most interesting and critical time of their lives. The work done for the pupils is reflected in the home, the community, and through the town government. After insisting on the need of co-operation between teachers and parents, Mr. Dutton spoke on the course which has been adopted in Brookline, in order to bring the home and the school into closer touch. Parents have accepted the invitation to visit the school, and public days are regularly held, so that the parents may see the progress of the work. Mothers' meetings held in the kindergartens and primary schools have been followed by afternoon tea.

Mr. Sandford, the principal of the high school, is responsible for a system of school extension, which provides a series of lessons, lectures, and addresses on language, science, the arts, literature, and history, for the parents and the public in general.

Another thought emphasized by Supt. Dutton was the possibility of making education the central motive and purpose of social work in the community:

"There has been a needless line drawn; a separation of like interests The clergyman is too often absorbed in the building up of his church and forgets the character-building which is going on at all times in the adjacent school-house. He even forgets the teachers. He overlooks the very foundations of character upon which the churches are built and without which they could not exist. Here in the schools the children pass many hours of their life under Christian nurture and training.

"A doctor is often an intelligent, oftener a caustic, critic of the schools because he understands the child-life and the dangers which menace the health and life of the young child. A lawyer generally preaches economy in school administration, and feels his duty to be performed if he opposes large appropriations. When properly enlisted, however, his influence is of inestimable value. The idea of child-training is so broad and comprehensive that all can be interested in it; all energies can be correlated and coordinated into one great movement upon a platform so broad and comprehensive that all can stand thereon and work for the common end; the proper education of the community."

Assistant Superintendents Elected.

NEW YORK CITY.—At the last meeting of the board of education Commissioner John L. N. Hunt was elected assistant superintendent of schools and secretary to the board of superintendents for six years, at a salary of $5,000 a year.

Mr. Hunt was an instructor twenty-three years before he was admitted to the bar, and for seven years has been a member of the board of education.

The board also elected Matthew J. Elgas as assistant superintendent for three years. Mr. Elgas has for twenty years been principal of Grammar School No. 69.

Supervisors of the various branches of instruction were elected as follows: Manual training, James P. Haney, at a salary of $2,500; sewing, Annie L. Jessup, $1,800; physical education for girls, Mrs. Requa and Miss Nicolai, $2,000 each.

Superintendent Maxwell Re-elected.

BROOKLYN, N. Y.—At the annual meeting of the board of education Supt. Wm. H. Maxwell was re-elected at an increase in salary from $5,000 to $6,000. The salaries of associate superintendents, Edw. G. Ward and John H. Walsh were raised from $4,000 to $4,500. Mr. J. Edward Swanstrom was re-elected president of the board.

President Swanstrom said, after thanking his colleagues for the honor done him, that heretofore politics and not merit had decided the appointment of teachers, but now politics cut no figure. Referring to the teaching of scientific temperance in the schools, Mr. Swanstrom said that it was doing harm already, and the time wasted in the study might better be devoted to American history. He said also that no more high schools would be established till elementary education was provided for all who need it.

Defective Sight of School Children.

BALTIMORE, MD.—A committee of oculists, working under the direction of the school board, has been testing the sight of school children. The committee examined the eyes of 53,067 pupils with interesting results. 9,051 pupils were found to have such defective eyesight that they were unfit for school work, and fifty-three per cent. did not have normal sight. Strange to say, the percentage of defective eyesight decreased with the age of the pupils. The per cent. of normal vision in the first grade was 35; second, 41; third, 47; fourth, 49; fifth, 48; sixth, 48; seventh, 54; and eighth, 56.

The report of the oculists recommends a uniform system of adjustable seats and desks, which shall be regulated to the height of the children. It traces much of the defective sight to the fact that many blackboards and maps are not placed in a proper light. An annual examination of the pupils' eyes is recommended.

Women Teachers and Summer Schools.

In a recent article in the *Atlantic* it was stated that Boston women teachers are not ambitious to grow, and that they are apt to be satisfied without making any efforts to improve and promote themselves.

Secretary Chamberlain, of the Harvard summer school, says that while he remembers but few Massachusetts men as registered at the school, he knows of many women who have made great sacrifices to pay for their tuition from a slender salary.

Professor Sedgwick and Mr. Barton, of the Institute of Technology, say that while they have had a large number of women studying in their Saturday classes and biological laboratories, they have had only two men teachers. These are facts which go to disprove the statement in the *Atlantic*.

The death of Henry Andrews Pratt, formerly superintendent of schools at Gloversville, N. Y., is announced. Mr. Pratt was born in Waterbury, Conn., in 1833. He was graduated from Yale college in 1858, and the following three years were spent as teacher and principal in Massachusetts and Connecticut. In 1867 Mr. Pratt went to Gloversville, N. Y., to take charge of what was then Union academy. In 1881 he was elected superintendent of schools, which position he held till 1890. In the first year of his service there were 783 pupils registered and 11 teachers employed. When he resigned the superintendency there were 39 teachers and 2,507 pupils.

Mr. Pratt is largely responsible for the success of the school system at Gloversville, and he has left the impress of his high ideals upon two generations of pupils.

THE BEST BOOKS

ARITHMETIC.
The Walsh Arithmetics
On the "spiral" plan.
Atwood's Complete Arithmetic
Unique in grading.

READING.
The Heart of Oak Books
Edited by CHARLES ELIOT NORTON of Harvard.
Wright's Nature Readers
The "Seaside and Wayside" Series.
Bass's Nature Stories
"Animal Life" and "Plant Life."

LANGUAGE.
Hyde's Lessons in English
A complete course in language and grammar.
Penniman's Speller
Contains 3500 Common Words Difficult to Spell.

WRITING.
The Natural System of Vertical Writing
By A. F. NEWLANDS and R. K. ROW.
Haaren's Writing Books
The best slanting copies.

HISTORY.
Thomas's History of the United States
Accurate, impartial, interesting.
Sheldon's American History
On the "laboratory" plan.

CIVICS.
Dole's The American Citizen
Is doing more for good citizenship than any other book published.

MUSIC.
Whiting's Public School Music Course

DRAWING.
Thompson's Drawing Series

CATALOGUES AND DESCRIPTIVE CIRCULARS FREE ON REQUEST.

D. C. HEATH & CO., Publishers, - - - - Boston, New York and Chicago.

New Books.

When Cooper first published his Leatherstocking tales readers on both sides of the Atlantic were surprised and delighted. He had struck a new field in fiction and he treated it in a masterly way, *The Last of the Mohicans*, one of these, takes one over the region in which is Glens Falls, Lake George. and the Adirondack wilderness and details some stirring adventures of white men and Indians. It is issued in the Riverside Literature series and has an introduction by Susan Fenimore Cooper and a biographical sketch of the novelist. It is bound substantially in cloth, in a shape suitable for school libraries. (Houghton, Mifflin & Co., Boston. Sixty cents.)

Herbert A. Smith, instructor in English at Yale college, has edited *Macaulay's Essay on Milton* with introduction and notes, for the Annotated English Classics. While he has made no pretense of having exhausted the possibilities of the essay he has suggested some of the ways in which it may be employed for the kind of writing which the requirement of English for the college entrance examinations was intended to demand. It has been found that students who attempt to pass the college entrance examinations are often very deficient in English. The careful study of such books as these in the preparatory schools will do much to remedy this defect. (Ginn & Co., Boston.)

Songs and games for little people is a collection that will help to make the exercises in the lower grades move more briskly and pleasantly, for all teachers know that children work better at their lessons if they have a little singing occasionally. Miss M. E. Cotting, who arranged these songs, is peculiarly adapted to the preparation of such an aid to teachers. She is a remarkably skilful teacher, a genius in supervision, as devoted to detail as to planning work for the school. A few of the songs are devotional; a few are devoted to the weather, the seasons, to various phases of nature, to the occupations, etc. Every teacher will be as much surprised as delighted that Miss Cotting has met their own specific needs so thoroughly. The words have childhood melody, and the music "sings easily," as teachers say. (New England Publishing Co., Boston and Chicago. Paper, 64 pp. 25 cents.)

A valuable work on physical training recently published is *A Text-Book of the German-American Gymnastics*, specially adapted to the use of teachers and pupils in public and private schools, edited by W. A. Stecher, secretary of the committee on physical training of the North American Gymnastic Union, and published under the auspices of that association. The contributors are teachers of gymnastics and most of them public school teachers. The usefulness and completeness of this work will be best understood by giving the subjects treated and their authors: System and method, William Fleck, New York; notes for leaders, marches, side and long horse, buck, roundel, marching, William A. Setcher, St. Louis; free exercises, dumb bell exercises, Henry Suder, Chicago; wand exercises, William Reuter, Davenport, Iowa; exercises with clubs, horizontal bars, F. W. Froehlich, St. Louis; exercises with rings, four inclined ladders, swinging poles, ring roundel, Dr. Karl Zapp, Cleveland. O.; fancy steps, Christian Eberhard, Boston; parallel bars, A. E. Kindervater, St. Louis; vertical, inclined, and horizontal ladder, Dr. Henry Hartung, Chicago; rings, Dr. Karl Ziegler, Cincinnati; vertical poles, William Kopp, Chicago; round swing, whipple ladder, Dr. Hans Ballin, Carbondale, Ill.; balancing board, Richard Pertuch, Philadelphia; high and far jumping and pole vaulting, Herm. Heim, Chicago; hop, step, and jump, high far jump, weights, spear throwing, D. M. Krogh, Philadelphia; gymnastic games, Karl Kroh, Chicago. That the public school teachers find an abundance of material will be seen from the fact that 7 pages are devoted to tactics; 19 to free exercises (calisthenics); 51 to wand exercises; 18 to club swinging; 12 to dumb bell exercises; 5 to ring exercises; 11 to fancy steps; 22 to games; 5 to roundel; and 20 to double wand and hoop exercises; in all 169 pages of work as at present performed in the common schools of this country. All the material is so arranged as to make it useful for gymnasiums for women as well as for those of men. (Lee & Shepard, Boston. $3.00.)

In the Western Series of Readers is included the *Pacific History Stories*, by Harr Wagner, A. M. In this are told, in language that children can understand, the adventures of the early discoverers and settlers on the west coast of our continent. Magellan, Balboa, Cabrillo, Drake, Fremont, and others figure in these pages. The stories make interesting reading for schools, as the history of the West is stirring and romantic. (The Whittaker & Ray Co., San Francisco.)

All sons of Columbia college and all others besides who are engaged in higher education will be interested in the biography of *Frederick A. P. Barnard*, the tenth president of New York's venerable institution. The material for these memoirs was collected by the late Mrs. Margaret McMurray Barnard, and has been arranged and edited in accordance with her wishes by John Fulton. Mrs. Barnard's wish was that her husband's career as a great educator should be illustrated as largely as possible from his own writings. Hence, a large part of the volume will be found to consist of summaries of his recorded views and condensed extracts from his published and unpublished works. Although the life of an educational man is always somewhat uneventful, the story of Dr. Barnard's achievements in the South as well as the North is one of great value and interest. His later career at Columbia college will command most attention. His work in building up that institution will keep his name bright for generations. Early in life he made his mark as an editor, and was a widely known writer of graceful verse. (Macmillan Co., New York. $4.00.)

Distress after eating, indigestion, sick headache and heartburn are cured by Hood's Sarsaparilla.

Won't You?
Dear Bread Makers, see that it is made of the right flour

Everyone now-a-days knows that all but a little bit of the good is bolted out to make flour white.

DO give us wholesome nutritious bread—your baking is simply perfect, bless your hearts, the fault is in the material. Get

The FINE FLOUR of the ENTIRE WHEAT
As ground by the Franklin Mills.

Its value is in its tint—a little off white, rich in Gluten.

If your grocer does not keep it send us his name with your order—we will see that you are supplied.

See that the Flour ordered bears our label; avoid substitutes.

Franklin Mills Co., Lockport, N.Y.

U. S. ENSIGNS.

School Flags.

MADE FROM

Best XXX Standard Bunting,

With Canvas Headings and Brass Grummets.

Send for CATALOGUE with SPECIAL PRICES for Schools and School Boards, to any of the following addresses.

Consolidated Fireworks Co., Of America.

New York City,	Nos.	9, 11 Park Place.
Chicago, Ill.	"	30, 32 South Water St.
Cincinnati, O.	"	244 Main St.
St. Louis, Mo.	"	210 North Second St.
Baltimore, Md.	"	104 Light St.

Chicago Kindergarten College.

Mrs. J. N. CROUSE, Director.
Miss ELIZABETH HARRISON, Principal.

COLLEGE REOPENS OCT. 1.

Prepares Kindergartners, Supervisors, and Training Teachers. Combines college course and profession.

CONVOCATION OF MOTHERS, OCTOBER 21, 22, 23.

Send for curriculums. Address Dept. B.

10 Van Buren Street, CHICAGO, ILL.

We buy schoolbooks
Cash or exchange, few or many, new or secondhand
Catalogue free—"Prices we Pay"—mention this ad
Arthur Hinds & Co.
4 Cooper Institute New York City

Seaside and Country
Gowns need
Duxbak

S·H·&M·
REGISTERED TRADE MARK.

BIAS
VELVETEEN
BINDING

on their skirt edges. It is rain-proof, sheds water and never turns grey.

If your dealer will not supply you we will.

Samples showing labels and materials mailed free.

"Home Dressmaking Made Easy," a new book by Miss Emma M. Hooper, of the Ladies' Home Journal, sent for 25c., postage paid.

S. H. & M. Co., P. O. Box 699, N. Y. City.

"Always have it on hand."

BROWN'S FRENCH DRESSING

should be in every home on account of its real economy. It makes the shoe bill smaller by keeping the leather soft and easy while giving a beautiful polish. It is all around economy to get Brown's — the perfect polish for Ladies' and Children's Shoes, Trunks, Bags, Harness, etc.

MADE BY
B. F. BROWN & COMPANY, Boston, Mass.

At the End of Your Journey you will find it a great convenience to go right over to
The GRAND UNION HOTEL
Fourth Ave., 41st and 42d Sts.,
Opposite Grand Central Depot, New York.
Central for shopping and theatres.
Baggage to and from 42d St. Depot free.
Rooms, $1.00 per day and Upwards.

CROWN AND BRIDGE WORK.
Teeth without Plates.

The special and scientific branch of dentistry known as Crown and Bridge Work, requires the most accurate adjustment with perfect mechanical construction to insure an artistic success and permanency.

Having every facility for this class of work I can now offer reasonable prices as consistent with first class workmanship. ESTABLISHED 1868.

Dr. W. J. STEWART, 362 W. 23d St. N.Y.

HAIR HEALTH RENEWS YOUTHFUL
Color to Gray Hair, Covers Bald Spots, Stops Dandruff, Hair Falling, Scalp Disease, 60c. postpaid. Send to London Supply Co., 851 Broadway, N.Y. FOR HAIR BOOK AND KILL CORN FREE.

BUCKEYE BELL FOUNDRY.
—CINCINNATI, O., U. S. A.
Best Grade Copper and Tin **BELLS**
School, College & Academy
Price and Terms Free. Name this paper.

Musical, far sounding, and highly satisfactory Bells for schools, Churches, &c.
MENEELY & CO., Established WEST TROY, N.Y. 1826.
Description and prices on application

New Books.

One would think that the fact that Shakespeare lived and wrote plays was sufficiently proved by the overwhelming testimony of his contemporaries, though he may not have written all or all parts of the plays usually attributed to him; yet we have a book entitled *Francis Bacon and his Shakespeare*, by Theron S. E. Dixon, in which he attempts to prove that the great philosopher and statesman originated the plays. Most minds would consider that the hard, dry, logical business of the jurist and statesman would specially unfit a man for writing the grandest and most poetical plays of all time. To have the old theory of Delia Bacon coming to the surface after so much excellent testimony against it has been presented almost makes one believe that falsehood is eternal instead of truth. The book of Mr. Dixon embodies an immense amount of research that we are afraid has been made in vain. Shakespeare is just as secure in his personality and his fame as George Washington or Abraham Lincoln. The book will remain as an evidence of how closely sometime people will hug a delusion when they might just as well have the truth. It contains a fine collection of extracts from Shakespeare's plays. (The Sargeant Publishing Co., Chicago. $1.50.)

No romance for boys ever written exceeds in interest the *Story of Paul Boynton*, the expect swimmer, who made voyayes on nearly all the great rivers of the world, paddling over twenty-five thousand miles in rubber dress. In North America, South America, Europe, and Africa he met many adventures with men and animals, some of which are of the most thrilling character. It is a remarkable story of heroism and endurence, and withal highly instructive. There are numerous illustrations. (Published by Paul Boynton, London, Chicago, and 172 Fulton street, N. Y.

A Pound of Facts

is worth oceans of theories. More infants are successfully raised on the Gail Borden Eagle Brand Condensed Milk than upon any other food. *Infant Health* is a valuable pamphlet for mothers. Send your address to the New York Condensed Milk Company, New York.

Just What's Needed,

Exclaims thousands of people who have taken Hood's Sarsaparilla at this season of the year, and who have noted the success of the medicine in giving them relief from that tired feeling, waning appetite and state of extreme exhaustion after the confinement of a winter season, the busy time attendant upon a pressing business during the spring months and with vacation time yet some weeks distant. It is then that the building-up powers of Hood's Sarsaparilla are fully appreciated.

Interesting Notes.

Prof. George B. Adams, of Yale university, is the author of a new book entitled *The Growth of the French Nation*, announced for early publication by Flood & Vincent, the publishers of the books of the Chautauqua Literary and Scientific Circle.

The Illustrated Magazine Number of *The Outlook* (the only periodical in the world which is a weekly newspaper and an illustrated monthly magazine in one) for June contains a finely illustrated article on "Buffalo, the City of Homes," by the Rev. William Burnet Wright, D.D.

A very novel method of transmitting a photograph, map, or picture by telegraph has been invented and copyrighted by W. H. Lowd, of Duluth, Minn., an old telegrapher. The method is comparatively simple, the different points of the physiognomy of a portrait in relation to each other being located similar to that of locating a

Scrofula

Manifests itself in many different ways, like goitre, swellings, running sores, boils, salt rheum and pimples and other eruptions. Scarcely a man is wholly free from it, in some form. It clings tenaciously until the last vestige of scrofulous poison is eradicated from the blood by Hood's Sarsaparilla. Thousands of voluntary testimonials tell of suffering from scrofula, often inherited and most tenacious, positively, perfectly and permanently cured by

Hood's Sarsaparilla

The One True Blood Purifier. All druggists. $1. Prepared only by C. I. Hood & Co., Lowell, Mass.

Hood's Pills act harmoniously with Hood's Sarsaparilla. 25c.

BOVININE

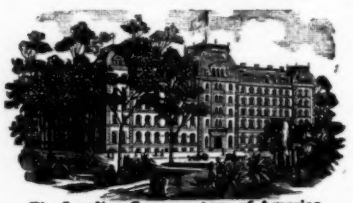
Will cause puny and feeble infants and children to thrive and grow plump and rosy.

AT ALL DRUGGISTS.

Talk No. 2 Teaching Current Events

It is a fact that more teachers use OUR TIMES for teaching current events in the school than all similar papers together. There is a solid reason for this, IT IS THE BEST. But there are at least one-half of the readers of this paper who are not using it. and we shall not stop talking about its value until these come into line. 30 cts. a year; 25 cts. in clubs. E. L. KELLOGG & Co., 61 E. 9th St., New York.

This year we offer a fine DISSECTED MAP OF THE UNITED STATES for 35 cents, with the paper; 2 to 10 subscriptions, 30 cents each; 10 to 25 subscriptions, 28 cents each; 25 and over, 25 cents each.



The Leading Conservatory of America.
Founded by Dr. E. Tourjée. CARL FAELTEN, Director.
Illustrated Calendar giving full information free.
New England Conservatory of Music, Boston.

READERS will confer a favor by mentioning THE JOURNAL when communicating with advertisers.

Cycle Value

The good of a cycle is told by the price it brings.

The buyer pays $100 for Columbia certainty, and less for bicycles of doubt.

POPE MFG. CO., Hartford, Conn.

capital or other city on an indexed map, and when so indicated on the chart, which is a part of the method, they are very easy to sketch, and the resulting portrait is surprisingly like the original.

The July number of *The New Crusade* contains an able and scientific article on "Heredity," by Louise C. Purington, M. D., and another of Mrs. J. H. Kellogg's practical and helpful papers, "Teaching Children Self-Control." The White Cross and White Shield Departments are given up to an extract from a very forcible sermon by the Rev. Jenkin Lloyd Jones on "No Sex in Crime." The magazine deals with questions discussed by no other periodical, and does so in the most delicate, scientific, practical manner. It is issued by the Ward Allen Publishing Co., of Ann Arbor, Mich.

That celebrated book The Man Without a Country, by Edward Everett Hale, should be in every school library in the country. It is only one of the many high class books issued by Roberts Brothers, Boston. Others are Talks with My Boys, by William A. Mowry; Tales from Scott, by Sir Edward Sullivan, Bart; The Aim of Life, by Rev. Philip Stafford Moxom, The Columbian Knowledge Series, etc. Their new descriptive and educational catalogue can be had free on application.

The Rev. Dr. Francis E. Clark, president of the United Society of Christian Endeavor writes most interestingly on "Some International Delusions" in the July *North American Review*. Dr. Clark asserts that did the peoples of England, America, and Australia possess a better knowledge of one another, war between them would be an undreamed of possibility.

The July issue of the *Annals of the American Academy of Political and Social Science* contains articles by Prof. L. F. Ward on the Principles of Sociology; Dr. C. W. Macfarlane on Paper Currency in the Colony of Pennsylvania; Daniel S. Remsem on Fusion of Political Parties, and Hon. Martin A. Knapp, of the Interstate Commerce Commission, on Railway Pooling. Important questions of the day are touched upon in these able and timely discussions.

Ginn & Co. will have ready this summer *Glaciers of North America*, by Israel C. Russell, professor of geology in the University of Michigan. Until within a few years nearly all knowledge of glaciers was based on the study of those of Europe. Recent explorations have shown, however, that North America contains thousands of glaciers, some of which are not only vastly larger than any in Europe, but belong to types of ice bodies not there represented. In the study of the glaciers of North America, and especially of those in Alaska, Professor Russell has taken an active part, and this book not only presents the results of his own explorations, but a condensed and accurate statement of the present status of glacial investigations.

Vol. XXXVI. of the International Education series (D. Appleton & Co.), just issued is *Herbart's A B C of Sense-Perception and Introductory Works*, by Wm. J. Eckoff, Ph. D., professor of pedagogy in the University of Illinois. This volume comprises a graded series of the following pedagogical essays of Herbart: Introductory Lectures to Students in Pedagogy; Essay on Pestalozzi's Latest Work, "How Gertrude Taught her Children;" On the Proper Point of View for Judging the Pestalozzian Method; On Pedagogical Discussions and the Conditions under which they may be of Use; Observations on a Pedagogical Essay; The Æsthetic Presentation of the Universe as the Principal Office of Education; *The A B C of Sense-Perception;* The Dark Side of Pedagogy. *The A B C of Sense-Perception* is completed by Herbart for immediate application in the school-room, and has been tested by actual use in American public schools under the author's direction. The other works are graded and connected by prefaces and explanatory remarks so as to aid in the thorough comprehension of the A B C. The whole constitutes a course delivered before students preparing for service in the public schools.

The July number of *Harper's Magazine* will open with a paper on *General Washington* and the period of the Revolution, by Woodrow Wilson. Rarely has a historic personage been made so real and human as Washington appears (thanks to the art of this skilful writer) in camp and on the battle-field no less than in the Virginia House of Burgesses or at his Mount Vernon plantation. Mr. Pyle's illustrations of historic scenes worthily accompany Professor Wilson's admirable studies of colonial life and politics.

During the Teething Period.

MRS. WINSLOW'S SOOTHING SYRUP has been used for over FIFTY YEARS by MILLIONS of MOTHERS for their CHILDREN WHILE TEETHING, with PERFECT SUCCESS. It SOOTHES the CHILD, SOFTENS the GUMS, ALLAYS all PAIN, CURES WIND COLIC, and is the best remedy for DIARRHŒA. Sold by Druggists in every part of the world. Be sure and ask for "Mrs. Winslow's Soothing Syrup," and take no other kind. Twenty-five cents a bottle.

MON. TUES. WED. THUR. FRI. SAT. SUN.

SAPOLIO

USED EVERY WEEK-DAY BRINGS REST ON SUNDAY.

ON THE SOFA

all day, perhaps two. Cold, cramped, raging headache, general weakness.

PABST MALT EXTRACT The Best Tonic

WARMS
CHEERS—SOOTHES
STRENGTHENS
STIMULATES
HELPS
CURES

This is true. Try it before, then, and after.

At Druggists.

THE GREAT AMERICAN TEA COMPANY

WANTED

Competent **Club Agents** [ladies or men or girls or boys] to get orders for our celebrated goods. **Good Incomes** made. **BIG PRESENTS** with every sale. 3½ lbs. Fine Family Teas by mail on receipt of $2.00. Good Teas and Coffees 25c. per lb. Send this "ad" and 16 cents in stamps and we will mail you a ¼ lb. sample best T imported, any kind, and full particulars.

THE GREAT AMERICAN TEA CO.,
31 & 33 VESEY STREET,
P. O. Box 289. NEW YORK.

1896 High Grade Bicycles

Shipped anywhere C. O. D. at lowest wholesale prices.

$100 Oakwood Ter. $17.50
$65 "Arlington" " $45.00
$65 " " $37.50
$30 Bicycle " $10.75

Latest models, fully guaranteed; pneumatic tires; weight 17½ to 30 lbs.; all styles and prices. Large illustrated catalogue free.
Cash Buyers' Union, 162 W. VanBuren St., Chicago

When writing advertisers mention this paper.

AFTER FIVE YEARS' USE

In city and country schools

Montgomery's American History

Has been readopted Unanimously for another term of five years for Exclusive Use in all the public schools of the State of Indiana.

Descriptive circular sent postpaid on application. We cordially invite correspondence.

GINN & COMPANY, Publishers.

BOSTON, NEW YORK, CHICAGO.

Any boy or any girl in the remotest hamlet, or any teacher or official anywhere can secure of us promptly, *second-hand or new, at reduced prices*, singly or by the dozen, *postage or expressage free*, school books of all the publishers. Brand new and complete alphabetical catalogue *free*, if you mention this ad.

Arthur Hinds & Co.,
4 Cooper Institute, New York City.

Erie Railroad

ERIE

The . . . Picturesque Trunk Line of America.

The only line whose trains are everywhere protected by

BLOCK SAFETY SIGNALS

THE ONLY LINE WITHOUT CHANGE FROM

NEW YORK,
CHICAGO,
CLEVELAND,
CINCINNATI,

TO BEAUTIFUL

CHAUTAUQUA LAKE

Located at a high altitude, amidst charming surroundings, its shores dotted by hotels of unusual excellence. Chautauqua Lake is famous as the

IDEAL SUMMER RESORT,

and is reached with speed, comfort, and safety by the

...PICTURESQUE ERIE.

D. I. ROBERTS,
Gen. Passenger Agent.

IN our List may be found text-books of almost every grade from the lowest primary to the advanced university. They were not made by professional authors but on the contrary they are the outgrowth of school life and school-room experience. We desire to make this list as widely known as possible among the best teachers, and to all school boards who are seeking the best books for adoption. Investigation is invited. All correspondence will have prompt attention. LEACH, SHEWELL & SANBORN.

New York, 67 Fifth Ave. Boston, 202 Devonshire St.
Chicago, 110 Wabash Ave.

‡ ALL THE CUTS ‡

Published in The School Journal

ARE FOR SALE

At Reduced Prices.

Half Tones, 20c. per sq. in., minimum price $2.00.

Line Etchings, 7c. per sq. in., minimum price, 75c.

Orders should be sent in as soon as possible after cuts appear in the paper, as all cuts must be disposed of shortly after publication. Address

E. L. KELLOGG & CO., 61 E. 9th St., New York

"IMPROVEMENT THE ORDER OF THE AGE."

THREE NEW MODEL

Smith Premier Typewriters,

NOS. 2, 3, AND 4.

HAVE YOU EXAMINED THEM?

MANY IMPROVEMENTS Heretofore Overlooked by Other Manufacturers.

Address THE SMITH PREMIER TYPEWRITER COMPANY,

Branch Offices in Twenty-Nine Principal Cities in the United States.

Syracuse, N. Y., U. S. A.

UNIVERSITY PUBLISHING CO.,

Educational Publishers,

43-47 East 10th St., NEW YORK

Please send for catalogue and price list. Correspondence solicited.

GENERAL SCHOOL MERCHANDISE.
GEOGRAPHICAL APPLIANCES
OF ALL KINDS
J. L. HAMMETT CO.
352 WASHINGTON ST.
BOSTON MASS.